

Montville Power LLC 74 Lathrop Road Uncasville, CT 06382

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March 23, 2015

Ms. Jessica Stefanowicz Connecticut Department of Energy and Environmental Protection 79 Elm Street Hartford, Connecticut 06106

Subject:

Semi-Annual Site Status Update

Montville Generating Station, Montville Power LLC, Montville, CT

Dear Ms. Stefanowicz:

Montville Power LLC is submitting the enclosed Semi-Annual Site Status Update for the Montville Generating Station in Montville, Connecticut. This report provides a site status update for the period of July 2014 through December 2015.

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement in the submitted information may be punishable as a criminal offense, under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the General Statutes, and in accordance with any other applicable statute."

Should you have any questions or require further information, please call Mr. Ian Cambridge, at (860) 848-6017.

Thank you,

Marsal Martin Site Manager

Montville Power LLC

Enclosure(s)

cc: William Warzecha, CTDEEP (e-copy only)

Juan Perez, USEPA (e-copy only)

Bob Spooner, NRG (e-copy only)

Ian Cambridge, NRG Montville (hard copy and e-copy)

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March 9, 2015 Project #: 1009644010.01000000

Ms. Jessica Stefanowicz Connecticut Department of Energy and Environmental Protection 79 Elm Street Hartford, Connecticut 06106

Subject: Semi-Annual Site Status Update

Montville Generating Station Montville, Connecticut

Dear Ms. Stefanowicz:

On behalf of Montville Power LLC (Montville Power) and its parent company, NRG Energy, Inc. (NRG), CB&I Environmental and Infrastructure, Inc. (CB&I) has prepared this letter to provide a semi-annual site status update for the subject site. A Site Plan is provided as **Figure 1**. In addition, CB&I is providing the Connecticut Department of Energy & Environmental Protection (CTDEEP) with the schedule for continuing environmental activities at the site. This report covers the period of July 2014 through December 2014.

### **GROUNDWATER MONITORING – SEPTEMBER 2014 AND DECEMBER 2014**

### **Groundwater Sampling**

Groundwater monitoring during this reporting period was conducted on September 25 and 26, 2014 and December 4 and 5, 2014 at the locations and for the parameters listed in the table below. During both the September 2014 and December 2014 events, groundwater samples were collected from existing monitoring wells to monitor groundwater concentration trends for metals and to assess compliance with applicable criteria.

Sample Location	Select Metals	CT EPH
AOC3-SB1-MW1	X	
AOC3-SB4-MW2	X	X
AOC5-MW202	X (December only)	X
AOC12-MW301	X	
AOC12-MW305	X	X
AOC12-MW306	X	X
MW-11	X (December only)	
NRG-MW3	X (September only)	
NRG-MW5	X	X
NRG-MW7	X	X
	Total metals (As, Be, Cu, Ni, V, and Zn) by EPA Method 6010	EPH by CTDEEP method

During the two groundwater sampling events, depth to groundwater was measured at each of the monitoring wells using an electronic interface probe (IP). The IP used detects water and light non-aqueous phase liquid (LNAPL), if present, to within accuracy of 0.01 foot. LNAPL was not detected in monitoring wells gauged during these events, which is consistent with previous results. Results of water level monitoring from the September 2014 and December 2014 sampling events are summarized along with prior results in **Table 1**.

CB&I collected groundwater samples from the monitoring wells (with the exception of NRG-MW3) using a modified low flow sampling technique. Well locations are shown on **Figure 1**. Each well was pumped at a rate that produced little or no draw down while parameters including temperature, pH, oxidation reduction potential (ORP), dissolved oxygen (DO) and conductivity were monitored. Groundwater samples were then collected after the parameters stabilized to ensure that the each sample was representative of local aquifer conditions. CB&I collected groundwater samples from monitoring well NRG-MW3 using a purge and recharge approach due to low water levels. During the December 2014 sampling event well NRG-MW3 was found to be dry. As a result, well MW-11, which is located down gradient of NRG-MW3, was sampled as an alternative monitoring point. Based upon previous exceedances of the Remediation Standard Regulations (RSR) criteria in groundwater samples collected at the site, groundwater samples were submitted to Accutest Laboratories of Marlborough, Massachusetts for analysis of select total metals including arsenic, beryllium, copper, nickel, vanadium, and zinc, and extractable petroleum hydrocarbons (EPH) in September and December 2014. Complete laboratory analytical reports are included in **Attachment 1**.

#### **Groundwater Results**

Groundwater analytical results from the September and December 2014 sampling events are summarized in **Table 2** (GA groundwater area monitoring wells) and **Table 3** (GB groundwater area monitoring wells). As appropriate, **Tables 2** and **3** compare groundwater analytical results to the Surface Water Protection Criteria (SWPC), Additional SWPC (vanadium), Alternative SWPC (arsenic, beryllium, copper, and zinc), and groundwater protection criteria (GWPC). CTDEEP approved the Additional and Alternative SWPC in their March 13, 2013 letter (CTDEEP, 2013).

The groundwater data from several previous rounds of sampling have indicated that there is little difference between dissolved and total metals concentrations in groundwater at the Montville site (Shaw, 2010). Therefore, at appropriate wells, such as NRG-MW-5, comparison of total metals concentrations to the Water Quality Criteria (WQC) is appropriate to evaluate potential impact to the Bartlett Cove area. This comparison is presented in **Table 4**, and includes both freshwater and saltwater criteria.

The data for September 2014 and December 2014 presented in **Tables 2, 3** and **4** indicate the following:

Concentrations of arsenic detected during the September 2014 sampling event ranged from non-detect at NRG-MW3 to 62.7 micrograms per liter (ug/l) at well AOC12-MW306. The concentrations of arsenic detected in September 2014 exceeded the appropriate SWPC (10 ug/l) at four of the seven wells were it was present above the reporting limit. Concentrations of arsenic detected during the December 2014 sampling event ranged from non-detect at AOC5-MW202 to 59.9 ug/l at well AOC12-MW306. The concentrations of arsenic detected in December 2014

- exceeded the appropriate SWPC at four of the seven wells were it was present above the reporting limit.
- Concentrations of beryllium detected during the September 2014 sampling event ranged from non-detect at several wells to 16.5 ug/l at well AOC3-SB1-MW1. Concentrations of beryllium detected during the December 2014 sampling event ranged from non-detect at several wells to 5.1 ug/l at well AOC3-SB1-MW1. Detected concentrations of beryllium above the reporting limit in the September and December 2014 sampling events were below the appropriate SWPC.
- Concentrations of copper detected during the September 2014 sampling event ranged from non-detect at several wells to 491 ug/l at well AOC3-SB1-MW1. The detected concentration of copper at well AOC3-SB1-MW1 exceeded the appropriate SWPC (310 ug/l). Concentrations of copper detected during the December 2014 sampling event ranged from non-detect at several wells to 91 ug/l at well AOC3-SB1-MW1. Detected concentrations of copper above the reporting limit in the December 2014 sampling event were below the appropriate SWPC.
- Concentrations of nickel detected during the September 2014 sampling event ranged from nondetect at several wells to 130 ug/l at well AOC3-SB1-MW1. Concentrations of nickel detected during the December 2014 sampling event ranged from non-detect at two wells to 168 ug/l at well AOC3-SB1-MW1. Detected concentrations of nickel above the reporting limit in the September and December 2014 sampling events were below the appropriate SWPC.
- Concentrations of vanadium detected during the September 2014 sampling event ranged from non-detect at several wells to 80.6 ug/l at well AOC3-SB1-MW1. Concentrations of vanadium detected during the December 2014 sampling event ranged from non-detect at several wells to 53.3 ug/l at well AOC12-MW306. Detected concentrations of vanadium above the reporting limit in the September and December 2014 sampling events were below the appropriate SWPC.
- Concentrations of zinc detected during the September 2014 sampling event ranged from nondetect at two wells to 860 ug/l at well AOC3-SB1-MW1. Concentrations of zinc detected during the December 2014 sampling event ranged from non-detect at several wells to 267 ug/l at well AOC3-SB1-MW1. Detected concentrations of zinc above the reporting limit in the September and December 2014 sampling events were below the appropriate SWPC.
- At monitoring well NRG-MW5, where comparison to the WQC is appropriate, the concentration of nickel detected in groundwater samples from September and December 2014 exceeded the chronic saltwater criteria. The remaining metals were reported at concentrations below the WQC.
- During the September and December 2014 sampling event, concentrations of poly nuclear aromatic hydrocarbons and hydrocarbon fractions in samples collected from wells AOC5-MW202, NRG-MW5, AOC12-MW305 AOC12-MW306, and NRG-MW7 were not reported above detection limits. Detected concentrations of the C11-C22 aromatic hydrocarbons in groundwater samples collected from well AOC3-SB4-MW2 in September and December 2014 were 200 ug/l and 130 ug/l, respectively. Both concentrations are below SWPC for C11-C22 aromatic hydrocarbons listed in the July 2012 CTDEEP technical support document.

The concentrations of metals detected in samples collected during this reporting period are generally consistent with previous results.

### Laboratory Analytical - QA/QC Evaluation

Laboratory analysis completed as part of this assessment was conducted in accordance with CTDEEP's Reasonable Confidence Protocol and the site specific Quality Assurance Project Plan (QAPP). The site specific QAPP was developed for the subject site in accordance with EPA guidance (Shaw, 2011). The QAPP presents the requirements and procedures for conducting field sampling activities and investigations at the site so that (1) the data quality objectives specified for this project are met, (2) the

field sampling protocols are documented and reviewed in a consistent manner, and (3) scientifically valid and defensible data are collected. Field sampling activities discussed above were completed in general compliance with the QAPP that has been generated for the site.

CB&I requested that laboratory analysis be conducted in accordance with the QAPP and CTDEEP's Reasonable Confidence Protocol (CTDEP, 2007). CB&I performed data validation reviews for each laboratory report and documented the results in data validation worksheets. Data validation worksheets are included with the laboratory reports in **Attachment 1**. These worksheets are consistent with the data quality assessment and data usability evaluations detailed in CTDEEP guidance (CTDEP, 2009)

In general, laboratory analyses were completed in accordance with the site QAPP and CTDEEP's Reasonable Confidence Protocol. However, a few minor quality assurance/quality control (QA/QC) issues, which are summarized in the validation worksheets and laboratory report narratives, were identified. These identified QA/QC issues resulted in some detection limits and reported results being qualified as follows:

- In laboratory report MC33943 (September 2014) relative percent difference of a serial dilution sample indicated several metals were outside control limits. However, this was noted in a QC batch sample that was not form the subject site. In addition, the percent difference is considered acceptable due to low initial sample concentration (<50 times instrument detection limit) and no qualification was necessary.
- In laboratory report MC33903 (September 2014) relative percent difference of a serial dilution sample indicated several metals were outside control limits. However, this was noted in a QC batch sample that was not form the subject site. In addition, the percent difference is considered acceptable due to low initial sample concentration (<50 times instrument detection limit) and no qualification was necessary. A significant difference was noted in the analytical results for metals, particularly copper, between the parent and field duplicate sample from well AOC3-SB1-MW1. This indicates questionable precision for this sample and the results were qualified "J" (estimated value).</p>
- In laboratory report MC35624 (December 2014), relative percent difference of a serial dilution sample indicated several metals were outside control limits. However, this was noted in a QC batch sample that was not form the subject site. In addition, the percent difference is considered acceptable due to low initial sample concentration (<50 times instrument detection limit) and no qualification was necessary.
- In laboratory report MC35606 (December 2014), zinc was detected in the equipment blank sample collected. As a result positive detects less than five times the concentration reported in the equipment blank sample were qualified "U" (non-detect). In addition, the relative percent difference of a serial dilution sample indicated several were outside control limits. However, the percent difference is considered acceptable due to low initial sample concentration (<50 times instrument detection limit) and no qualification necessary. The relative percent difference of a serial dilution sample indicated potential matrix interference for zinc. As a result zinc data from NRG-MW7 was qualified "J" (estimated).

In summary, each of the identified issues had no overall effect on the conclusions drawn from the data, and the data is acceptable for the purposes of this submittal.

### **ENGINEERED CONTROL CONSTRUCTION**

During this reporting period, construction began on the approved Engineered Controls for the site. Construction of the gravel Engineered Controls in AOC 3B and AOC 12 began during the week of July 14, 2014. Construction of the gravel control was substantially complete during the week of November 10, 2014. Additionally, patching and repair of the existing asphalt in AOC-3B and AOC-12 to act as Engineered Controls was also conducted during this reporting period. However, asphalt seal coating has not been conducted yet. Those activities were substantially complete during the week of October 27, 2014.

As discussed in the prior status report, construction of the low permeable control in AOC 9 had been delayed while an access agreement was negotiated with CL&P. Those negotiations resulted in an agreement being reached in September 2014. Vegetation clearing in AOC 9 for construction of the low permeable control began during the week of November 3, 2014. Following re-grading and installation of subgrade material in AOC 9, installation of the low permeable material began during the week of December 8, 2014 and was completed in early January 2015. However, installation of the final parts of the low permeable Engineered Control was temporarily suspended on January 12, 2015 due to extreme winter weather conditions. Once work was suspended the construction areas were stabilized for the season, and equipment and personnel were demobilized from the site. A figure that illustrated work areas completed is provided as **Figure 2**. A completion report that provides details of construction and as-built drawings for each Engineered Control is expected to be included with the next site status report.

### **ADDITIONAL ENVIRONMENTAL ACTIVITIES**

Additional environmental activities occurring at the site between July and December 2014 are described below:

- Based on previous discussions with CTDEEP and in conjunction with the revised site-specific Industrial/Commercial Direct Exposure Criteria (I/C DEC) for arsenic, Montville Power submitted an addendum to the approved Engineered Control for the subject site (CB&I, 2014b). Addendum 1, dated September 16, 2014, details controls such as fencing and signage in areas where the site-specific I/C DEC is proposed (AOC 5 and 9). On January 20, 2015, CTDEEP conditionally concurred with the Engineering Control addendum subject to the approval of the I/C DEC discussed below.
- On behalf of NRG, CB&I developed a Soil Management Plan for the Montville Power property dated January 30, 2014 (NRG, 2014). The plan is intended to be used for invasive subsurface work with the potential to breach the Engineered Control or that will result in the disruption of soil within the proposed Environmental Land Use Restriction area. The plan identifies the required approvals for such activities including Montville Power, a Connecticut Licensed Environmental Professional, and CTDEEP. The document was provided to CTDEEP with a request for approval. On January 20, 2015, CTDEEP conditionally concurred with the Soil Management Plan.
- Based on an email exchange with USEPA in November 2014, the Self Implementation Plan for AOC 9 was conditionally approved by USEPA in 2013 with the approval of Engineering Control Part 2 by the CTDEEP. Formal acknowledgment of this approval was issued by USEPA in a February 26, 2015 letter.

### **OUTSTANDING SUBMITTALS**

The following items are outstanding submittals for which CTDEEP has not yet provided a response. NRG and CB&I respectfully request approval by April 2015.

- Following discussions with CTDEEP, on March 21, 2014, Montville Power submitted a revised request for approval of a site-specific I/C DEC for arsenic (Shaw, 2014a).
- Montville Power submitted an Inaccessible Soil Exemption for the soil beneath certain permanent structures at the site (Shaw, 2013b).
- In response to a CTDEEP request, CB&I presented CTDEEP with six methods for calculating a revised Alternative SWPC for arsenic in an email dated September 10, 2013.

### SITE SCHEDULE

Outlined below is the site schedule that Montville Power and NRG expect to follow through verification.

Activity	Anticipated Date
EC Complete	Q2 2015
Groundwater Monitoring	Q2 & Q4 2015
Site-Wide Remedial Action Plan and Public Notice	Q2 2015
Site-Wide Remedial Action Plan approval	Q3 2015
EC Completion Report	Q3 2015
Post Remediation Monitoring	2015 & 2016
ELUR	2015
Public Notice and Partial Verification with Remediation Standards Regulations	2016

NRG and Montville Power will continue to provide updates on the status of response actions at the subject site on a semi-annual basis as requested by CTDEEP. Plans, submittals, and reports will be copied to the USEPA.

If you have any questions regarding this letter or any other site matter, please do not hesitate to call me at 617-589-6143.

Sincerely,

Andrew D. Walker, LEP, LSP

**Project Manager** 

CB&I Environmental and Infrastructure, Inc.

Phone: 617-589-6143

E-mail Address: Andrew.Walker@CBI.com

**Enclosures:** 

### **Tables**

Table 1 - Groundwater Gauging Data

Table 2 - Groundwater Analytical Results - GA Area 2014

Table 3 – Groundwater Analytical Results – GB Area 2014

Table 4 – Groundwater Analytical Results – NRG-MW5 Total Metals Compared to WQC

### **Figures**

Figure 1 - Site Plan

Figure 2 – Proposed Engineered Controls – Existing Conditions January 12, 2015

### **Attachments**

Attachment 1 - Laboratory Analytical Report for Groundwater with Data Validation Worksheets

CC:

Mr. William Warzecha, CTDEEP (electronic)

Mr. Ian Cambridge, Montville Power LLC (hard copy and electronic)

Mr. Robert Spooner, NRG (electronic only)

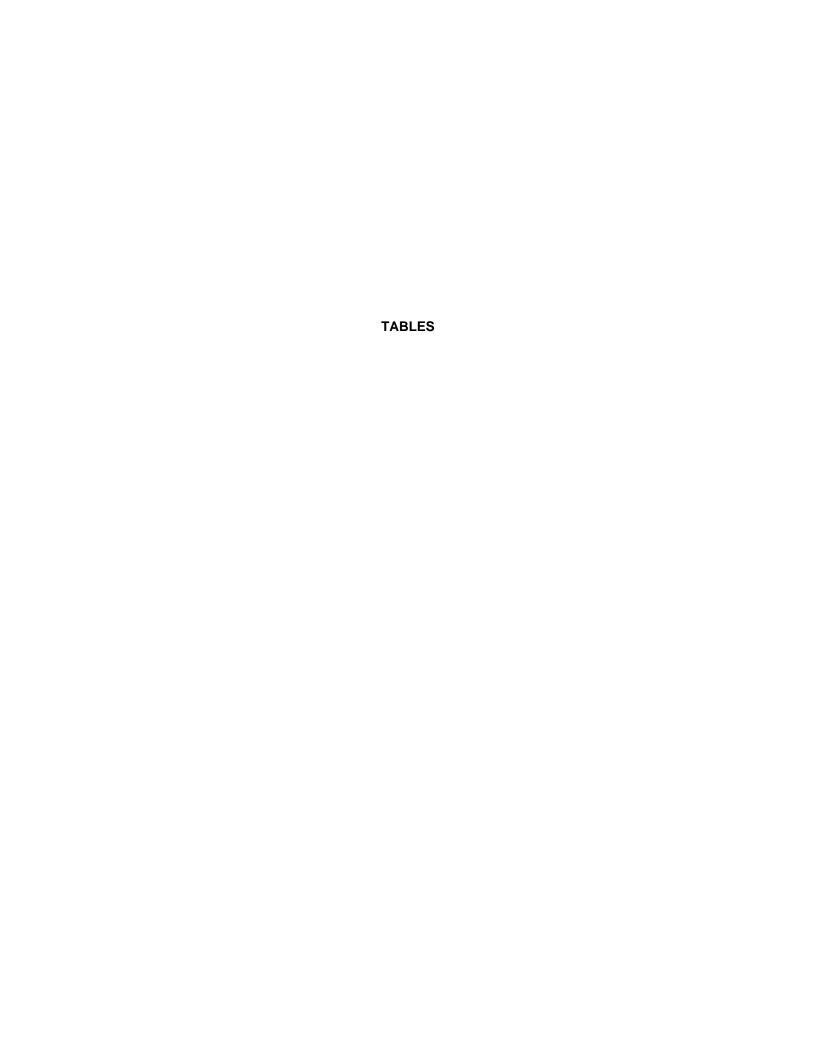
Mr. Juan Perez, USEPA (electronic only)

Ms. Kim Tisa, USEPA (electronic only)

Ms. Jessica Stefanowicz
CTDEEP, 79 Elm Street, Hartford, Connecticut 06106

### **REFERENCES**

- CB&I, 2014a. Revised Site-Specific I/C DEC Approval Request, Montville Generating Station, Montville Power LLC, Montville & Waterford, CT. CB&I Environmental and Infrastructure. September 16, 2014.
- CB&I, 2014b. Engineering Control Part 2, Addendum 1, Montville Generating Station, Montville Power LLC, Montville & Waterford, CT. CB&I Environmental and Infrastructure. September 16, 2014.
- CTDEP, 2007. Laboratory Quality Assurance and Quality Control Guidance, Reasonable Confidence Protocols Guidance Document. Connecticut Department of Environmental Protection. November 2007.
- CTDEP, 2009. Laboratory Quality Assurance and Quality Control, Data Quality Assessment and Data Usability Evaluation. Connecticut Department of Environmental Protection. May 2009.
- CTDEEP, 2013. Request for Criteria for Additional Polluting Substances and Alternative Criteria, Montville Station, 74 Lathrop Road, Montville. Connecticut Department of Energy & Environmental Protection. March 13, 2013.
- Shaw 2010. Semi-annual Site Status Update and Schedule Adjustment Request, Montville Generating Station, Montville, Connecticut. Shaw Environmental, Inc. February 17, 2010.
- NRG, 2014. Soil Management Plan, Montville Generating Station, Montville, Connecticut. NRG Montville Operations, Inc. January 30, 2014.
- Shaw, 2013a. Site-Specific I/C DEC Approval Request, Montville Generating Station, Montville Power LLC, Montville & Waterford, CT. Shaw Environmental, Inc. March 21, 2013.
- Shaw, 2013b. Notice of Inaccessible Soil Exemptions, Montville Generating Station, Montville, Connecticut. Shaw Environmental, Inc. April 30, 2013.
- Shaw, 2013c. Preliminary Technical Impracticability Assessment for Groundwater, Montville Generating Station, Montville Power LLC, Montville, Connecticut. Shaw Environmental, Inc. July 16, 2013
- Shaw 2011. Quality Assurance Project Plan, NRG Montville Generating Station. Shaw Environmental, Inc. March 2008, Revised August 2011.



### TABLE 1 GROUNDWATER GAUGING DATA (03/10/14 - 12/05/14)

### Montville Power LLC 74 Lathrop Road Montville, Connecticut

Location	Date	Reference Elevation	Depth to Water (Feet)	Depth to	LNAPL Thickness (Feet)	Groundwater Elevation	Notes
A C C A C A NAV C C A	00/40/44	(Feet)		(Feet)	(reet)	(Feet)	DTD 40.40
AOC12-MW-301	03/10/14	14.44	12.03			2.41	DTB = 18.40'
AOC12-MW-301	06/12/14	14.44	10.91			3.53	DTB = 18.69'
AOC12-MW-301	09/25/14	14.44	11.28			3.16	DTB = 18.42'
AOC12-MW-301	12/04/14	14.44	12.02			2.42	DTB = 18.47'
AOC12-MW-305	03/10/14	13.57	11.52			2.05	DTB = 17.98'
AOC12-MW-305	06/11/14	13.57	10.72			2.85	DTB = 17.93'
AOC12-MW-305	09/25/14	13.57	11.02			2.55	DTB = 17.95'
AOC12-MW-305	12/05/14	13.57	11.48			2.09	DTB = 17.96'
AOC12-MW-306	03/11/14	13.82	11.83			1.99	DTB = 19.00'
AOC12-MW-306	06/12/14	13.82	11.48			2.34	DTB = 18.97'
AOC12-MW-306	09/25/14	13.82	11.92			1.90	DTB = 18.99'
AOC12-MW-306	12/04/14	13.82	12.11			1.71	DTB = 18.97'
AOC3-SB1-MW-1	06/12/14	10.04	7.12			2.92	DTB = 14.66'
AOC3-SB1-MW-1	09/25/14	10.04	7.60			2.44	DTB = 14.70'
AOC3-SB1-MW-1	12/04/14	10.04	7.89			2.15	DTB = 14.67'
AOC3-SB4-MW-2	03/10/14	6.51	4.77			1.74	DTB = 12.03'
AOC3-SB4-MW-2	06/11/14	6.51	4.02			2.49	DTB = 12.00'
AOC3-SB4-MW-2	09/25/14	6.51	4.88			1.63	DTB = 12.02'
AOC3-SB4-MW-2	12/04/14	6.51	4.36			2.15	DTB = 11.98'
AOC5-MW-202	03/11/14	31.17	8.67			22.50	DTB = 16.10'
AOC5-MW-202	06/11/14	31.17	8.74			22.43	DTB = 16.09'
AOC5-MW-202	09/26/14	31.17	9.02			22.15	DTB = 16.07'
AOC5-MW-202	12/05/14	31.17	8.92			22.25	DTB = 16.07'
MW-11	03/10/14	13.41	7.14			6.27	DTB = 11.45'
MW-11	12/04/14	13.41	7.26			6.15	DTB = 11.35'
NRG-MW-03	03/10/14	54.05	Dry			NA	
NRG-MW-03	06/11/14	54.05	43.42			10.63	
NRG-MW-03	09/26/14	54.05	44.77			9.28	DTB = 46.21'
NRG-MW-03	12/04/14	54.05	Dry			NA	
NRG-MW-05	03/11/14	10.59	9.97			0.62	DTB = 20.31'
NRG-MW-05	06/11/14	10.59	10.26			0.33	DTB = 20.25'
NRG-MW-05	09/26/14	10.59	10.88			-0.29	DTB = 20.25'
NRG-MW-05	12/05/14	10.59	9.61			0.98	DTB = 20.33'
NRG-MW-07	03/11/14	8.05	6.88			1.17	DTB = 17.25'
NRG-MW-07	06/11/14	8.05	7.03			1.02	DTB = 17.22'
NRG-MW-07	09/25/14	8.05	7.55			0.50	DTB = 17.28'
NRG-MW-07	12/04/14	8.05	6.98			1.07	DTB = 17.22'

Notes: -- = Not Detected NA = Not Available

<0.01 = Trace amount LNAPL detected

Montville Power LLC Montville, CT

			SWPC	AOC5-MW-202	AOC5-MW-202	AOC5-MW-202		NRG-MW-03		NRG-MW-05	NRG-MW-05	NRG-MW-05	NRG-MW-05	NRG-MW-05
CONSTITUENT	UNITS	GWPC	or Alt/Add SWPC (1)	3/11/2014 Primary	6/11/2014 Primary	9/26/2014 Primary	12/5/2014 Primary	6/12/2014 Primary	9/26/2014 Primary	3/11/2014 Primary	6/11/2014 Primary	9/26/2014 Primary	12/5/2014 Primary	12/5/2014 Duplicate 1
EPH	ONITS	GWFC	3WFC (1)	Filliary	Filliary	Filliary	Filliary	rilliary	Filliary	Filliary	Filliary	Filliary	Filliary	Duplicate 1
2-Methylnaphthalene	(ug/l)	49	NE	<4.00	<5.0	<5.0	<5.0			<4.00	<5.0		<2.00	<2.00
Acenaphthene	(ug/l)	420	NE	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Acenaphthylene	(ug/l)	420	130 (1)	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Anthracene	(ug/l)	2000	1100000	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Benzo(a)anthracene	(ug/l)	0.06	0.3	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Benzo(a)pyrene	(ug/l)	0.2	0.3	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Benzo(b)fluoranthene	(ug/l)	0.08	0.3	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Benzo(ghi)perylene	(ug/l)	210	NE	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Benzo(k)fluoranthene	(ug/l)	0.5	0.3	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Chrysene	(ug/l)	4.8	NE	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Dibenzo(a,h)anthracene	(ug/l)	0.2	NE	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Fluoranthene	(ug/l)	280	3700	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Fluorene	(ug/l)	280	140000	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Indeno(1,2,3-cd)pyrene	(ug/l)	0.5	NE	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Naphthalene	(ug/l)	280	NE	<4.00	<5.0	<5.0	<5.0			<4.00	<5.0		<2.00	<2.00
Phenanthrene	(ug/l)	200	230 (1)	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
Pyrene	(ug/l)	200	110000	<4.0	<5.0	<5.0	<5.0			<4.0	<5.0		<2.0	<2.0
C9-C18 Aliphatics (FID)	(ug/l)	700 (2)	770 (2)	<100	<100	<100	<100			<100	<100		<70	<70
C19-C36 Aliphatics (FID)	(ug/l)	1000 (2)	530 (2)	<100	<100	<100	<100			<100	<100		<70	<70
C11-C22 Aromatics	(ug/l)	140 (2)	250 (2)	<100	<100	<100	<100			<100	<100		<70	<70
Metals (Total)														
Arsenic	(ug/l)	10	10 (1)				<4.0	<2.4	<4.0	4.9	4.3	8.3	9.4	
Beryllium	(ug/l)	4	20 (1)				<4.0	<0.18	<4.0	0.084BJ	0.093BJ	0.098BJ	0.055BJ	
Copper	(ug/l)	1300	310 (1)				<25	<3.6	<25	<0.89	<0.89	1.7BJ	0.61BJ	
Nickel	(ug/l)	100	880				<40	<0.57	2.0BJ	9.5	9.1	12.6	10.3	
Vanadium	(ug/l)	50	4400 (1)				<10	<0.72	5.3BJ	4	3.3BJ	4.3	4.8	
Zinc	(ug/l)	5000	8100 (1)				<20	<4.6BU	11.0BJ	<18.9U	<15.1U	19.7	<15.6U	
СТ ЕТРН														
ETPH	(mg/l)	0.1	0.5 (1)		0.0866						0.0863			
Field Parameters														
рН		NE	NE	5.88	5.92	5.95				6.12	6.27	6.26		
ORP	(mv)	NE	NE	235.4	215.9	192.6				146.3	52.5	43.6		
Dissolved Oxygen	(mg/l)	NE	NE	8.34	5.5	5.61				0.53	0.41	0.08		
Specific Conductivity	(uS/cm)	NE	NE	0.163	0.158	0.155				0.107	0.168	0.19		
Temperature	(deg.c)	NE	NE	8.7	11.41	13.43				8.04	11.28	13.56		
Turbidity	(ntu)	NE	NE	0.5	0.6	0.4				0.8	0.3	0.3		

#### Notes:

SWPC = Surface Water Protection Criteria GWPC = Groundwater Protection Criteria

--- = Constituent not analyzed for.

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All results have been validated.

Montville Power LLC Montville, CT

			AOC12-MW-301	AOC12-MW-301	AOC12-MW-301	AOC12-MW-301	AOC12-MW-305	AOC12-MW-305
CONSTITUENT	UNITS	SWPC	3/10/2014 Primary	6/12/2014 Primary	9/25/2014 Primary	12/4/2014 Primary	3/10/2014 Primary	6/11/2014 Primary
EPH	GIVITS	3001 C	Timiary	Timiary	Timiary	Timiary	1 milary	Timary
2-Methylnaphthalene	(ug/l)	NE					<4.00	<5.0
Acenaphthene	(ug/l)	NE					<4.0	<5.0
Acenaphthylene	(ug/l)	130 (1)					<4.0	<5.0
Anthracene	(ug/l)	1100000					<4.0	<5.0
Benzo(a)anthracene	(ug/l)	0.3					<4.0	<5.0
Benzo(a)pyrene	(ug/l)	0.3					<4.0	<5.0
Benzo(b)fluoranthene	(ug/l)	0.3					<4.0	<5.0
Benzo(ghi)perylene	(ug/l)	NE					<4.0	<5.0
Benzo(k)fluoranthene	(ug/l)	0.3					<4.0	<5.0
Chrysene	(ug/l)	NE					<4.0	<5.0
Dibenzo(a,h)anthracene	(ug/l)	NE					<4.0	<5.0
Fluoranthene	(ug/l)	3700					<4.0	<5.0
Fluorene	(ug/l)	140000					<4.0	<5.0
Indeno(1,2,3-cd)pyrene	(ug/l)	NE					<4.0	<5.0
Naphthalene	(ug/l)	NE					<4.00	<5.0
Phenanthrene	(ug/l)	230 (1)					<4.0	<5.0
Pyrene	(ug/l)	110000					<4.0	<5.0
C9-C18 Aliphatics (FID)	(ug/l)	770 (2)					<100	<100
C19-C36 Aliphatics (FID)	(ug/l)	530 (2)					<100	<100
C11-C22 Aromatics	(ug/l)	250 (2)					<100	<100
Metals (Total)								
Arsenic	(ug/l)	10 (1)	6	<2.4	7.6	3.4BJ	{25.9}	{19.1}
Beryllium	(ug/l)	20 (1)	0.30BJ	4.8	<4.0	1.2BJ	1.1BJ	<0.18
Copper	(ug/l)	310 (1)	<7.0	13.5BJ	<25	4.7BJ	11.9BJ	6.9BJ
Nickel	(ug/l)	880	7.4BJ	113	<40	21.1BJ	31.8BJ	7.1BJ
Vanadium	(ug/l)	4400(1)	4.6BJ	4.3BJ	<10	4.3BJ	<2.8	<0.72
Zinc	(ug/l)	8100(1)	<15.6BU	120	36.7	<30.5U	98.9	34.7
СТ ЕТРН								
ETPH	(mg/l)	0.5(1)						0.0715J
Field Parameters								
pH		NE	6.47	4.13	4.82		6.17	6.19
ORP	(mv)	NE	123.5	241.3	193.8		-53.6	8.6
Dissolved Oxygen	(mg/l)	NE	0.44	0.3	1.25		0.4	0.44
Specific Conductivity	(us/cm)	NE	0.193	0.88	0.627		0.429	0.4
Temperature	(deg.c)	NE	8.88	12.66	18.61		9.47	15.74
Turbidity	(ntu)	NE	32.8	0.5	0.3		11.2	0.5

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All results have been validated.

Montville Power LLC Montville, CT

CONSTITUENT	UNITS	SWPC	AOC12-MW-305 9/25/2014 Primary	AOC12-MW-305 12/5/2014 Primary	AOC12-MW-306 3/11/2014 Primary	AOC12-MW-306 3/11/2014 Duplicate 1	AOC12-MW-306 6/12/2014 Primary	AOC12-MW-306 6/12/2014 Duplicate 1
EPH	ONTS	SWFC	Filliary	Filliary	Filliary	Duplicate 1	Filliary	Duplicate 1
2-Methylnaphthalene	(ug/l)	NE	<5.0	<2.00	<4.00	<4.00	<5.0	<5.0
Acenaphthene	(ug/I)	NE	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Acenaphthylene	(ug/I)	130 (1)	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Anthracene	(ug/I)	1100000	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Benzo(a)anthracene	(ug/I)	0.3	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Benzo(a)pyrene	(ug/l)	0.3	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Benzo(b)fluoranthene	(ug/I)	0.3	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Benzo(ghi)perylene	(ug/I)	NE	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Benzo(k)fluoranthene	(ug/I)	0.3	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Chrysene	(ug/I)	NE	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Dibenzo(a,h)anthracene	(ug/I)	NE NE	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Fluoranthene	(ug/I)	3700	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Fluorene	(ug/I)	140000	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Indeno(1,2,3-cd)pyrene	(ug/I)	NE	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
Naphthalene	(ug/I)	NE NE	<5.0	<2.00	<4.00	<4.00	<5.0	<5.0
Phenanthrene	(ug/I)	230 (1)	<5.0	<2.00	<4.00	<4.00	<5.0	<5.0
Pyrene	(ug/I)	110000	<5.0	<2.0	<4.0	<4.0	<5.0	<5.0
C9-C18 Aliphatics (FID)	(ug/I)	770 (2)	<100	<70	<100	<100	<100	<100
C19-C36 Aliphatics (FID)	(ug/I)	530 (2)	<100	<70	<100	<100	<100	<100
C11-C22 Aromatics	(ug/I)	250 (2)	<100	<70	<100	<100	<100	<100
Metals (Total)	(ug/1)	230 (2)	<b>\100</b>	<b>\70</b>	<b>\100</b>	<b>\100</b>	<b>\100</b>	<b>\100</b>
Arsenic	(ug/l)	10 (1)	{39.8}	{30.5}	{60.6}	{59.8}	{50.6}	
Beryllium	(ug/I)	20 (1)	<b>\\ 39.8</b> \\ <4.0	1.2BJ	0.30BJ	0.30BJ	<0.18	
Copper	(ug/I)	310 (1)	<25	33.4	<7.0	<7.0	<3.6	
Nickel	(ug/I)	880	<40	27.0BJ	23.0BJ	22.4BJ	24.9BJ	
Vanadium	(ug/I)	4400(1)	<10	0.90BJ	28.5	28.7	22.1	
Zinc	(ug/l)	8100(1)	<20	<81.7U	68.4	66.5	69	
CT ETPH	(46/1)	0100(1)	120	101.70	00.4	00.5	03	
ETPH	(mg/l)	0.5(1)					0.0899	0.082
Field Parameters	(1116/1)	0.5(1)					0.0055	0.002
pH		NE	6.64		5.71		5.4	
ORP	(mv)	NE NE	-68.6		105.9		100.7	
Dissolved Oxygen	(mg/l)	NE NE	0.47		0.29		0.34	
Specific Conductivity	(us/cm)	NE NE	0.359		0.344		0.437	
Temperature	(deg.c)	NE NE	16.18		12.04		13.52	
Turbidity	(ntu)	NE NE	0.3		3.7		0.4	

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Detection Limit (Inorganics)

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Montville Power LLC Montville, CT

CONSTITUENT	UNITS	SWPC	AOC12-MW-306 9/25/2014 Primary	AOC12-MW-306 9/25/2014 Duplicate 1	AOC12-MW-306 12/4/2014 Primary	AOC3-SB1-MW-1 6/12/2014 Primary	AOC3-SB1-MW-1 6/12/2014 Duplicate 1	AOC3-SB1-MW-1 9/25/2014 Primary	AOC3-SB1-MW-1 9/25/2014 Duplicate 1
EPH									
2-Methylnaphthalene	(ug/l)	NE	<5.0	<5.0	<2.00				
Acenaphthene	(ug/l)	NE	<5.0	<5.0	<2.0				
Acenaphthylene	(ug/l)	130 (1)	<5.0	<5.0	<2.0				
Anthracene	(ug/l)	1100000	<5.0	<5.0	<2.0				
Benzo(a)anthracene	(ug/l)	0.3	<5.0	<5.0	<2.0				
Benzo(a)pyrene	(ug/l)	0.3	<5.0	<5.0	<2.0				
Benzo(b)fluoranthene	(ug/l)	0.3	<5.0	<5.0	<2.0				
Benzo(ghi)perylene	(ug/l)	NE	<5.0	<5.0	<2.0				
Benzo(k)fluoranthene	(ug/l)	0.3	<5.0	<5.0	<2.0				
Chrysene	(ug/l)	NE	<5.0	<5.0	<2.0				
Dibenzo(a,h)anthracene	(ug/l)	NE	<5.0	<5.0	<2.0				
Fluoranthene	(ug/l)	3700	<5.0	<5.0	<2.0				
Fluorene	(ug/l)	140000	<5.0	<5.0	<2.0				
Indeno(1,2,3-cd)pyrene	(ug/l)	NE	<5.0	<5.0	<2.0				
Naphthalene	(ug/l)	NE	<5.0	<5.0	<2.00				
Phenanthrene	(ug/l)	230 (1)	<5.0	<5.0	<2.0				
Pyrene	(ug/l)	110000	<5.0	<5.0	<2.0				
C9-C18 Aliphatics (FID)	(ug/l)	770 (2)	<100	<100	<70				
C19-C36 Aliphatics (FID)	(ug/l)	530 (2)	<100	<100	<70				
C11-C22 Aromatics	(ug/l)	250 (2)	<100	<100	<70				
Metals (Total)									
Arsenic	(ug/l)	10 (1)	{62.7}		{59.9}	{106}	{495}	<4.0UJ	{47.0}J
Beryllium	(ug/l)	20 (1)	<4.0		0.70BJ	3.5BJ	6.1	5.4J	16.5J
Copper	(ug/l)	310 (1)	<25		<3.6	64.9	208	59.5J	{491}J
Nickel	(ug/l)	880	<40		39.2BJ	96.3	221	130J	601J
Vanadium	(ug/l)	4400(1)	27.9		53.3	69.8	278	10.9J	80.6J
Zinc	(ug/l)	8100(1)	47.6		<89.1U	161	328	235J	860J
СТ ЕТРН									
ETPH	(mg/l)	0.5(1)							
Field Parameters									
рН		NE	5.08			2.6		2.68	
ORP	(mv)	NE	152.9			479.8		385.1	
Dissolved Oxygen	(mg/l)	NE	1.25			0.4		1.92	
Specific Conductivity	(us/cm)	NE	0.328			1.899		3.866	
Temperature	(deg.c)	NE	15.61			14.68		19.2	
Turbidity	(ntu)	NE	0.3			0.4		0.3	

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Detection Limit (Inorganics)
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Montville Power LLC Montville, CT

CONSTITUENT	UNITS	SWPC	AOC3-SB1-MW-1 12/4/2014 Primary	AOC3-SB1-MW-1 12/4/2014 Duplicate 1	AOC3-SB4-MW-2 3/10/2014 Primary	AOC3-SB4-MW-2 6/11/2014 Primary	AOC3-SB4-MW-2 9/25/2014 Primary	AOC3-SB4-MW-2 12/4/2014 Primary	MW-11 3/11/2014 Primary
EPH									
2-Methylnaphthalene	(ug/l)	NE			<4.00	<5.0	<5.0	<2.00	
Acenaphthene	(ug/l)	NE			<4.0	<5.0	<5.0	<2.0	
Acenaphthylene	(ug/l)	130 (1)			<4.0	<5.0	<5.0	<2.0	
Anthracene	(ug/l)	1100000			<4.0	<5.0	<5.0	<2.0	
Benzo(a)anthracene	(ug/l)	0.3			<4.0	<5.0	<5.0	<2.0	
Benzo(a)pyrene	(ug/l)	0.3			<4.0	<5.0	<5.0	<2.0	
Benzo(b)fluoranthene	(ug/l)	0.3			<4.0	<5.0	<5.0	<2.0	
Benzo(ghi)perylene	(ug/l)	NE			<4.0	<5.0	<5.0	<2.0	
Benzo(k)fluoranthene	(ug/l)	0.3			<4.0	<5.0	<5.0	<2.0	
Chrysene	(ug/l)	NE			<4.0	<5.0	<5.0	<2.0	
Dibenzo(a,h)anthracene	(ug/l)	NE			<4.0	<5.0	<5.0	<2.0	
Fluoranthene	(ug/l)	3700			<4.0	<5.0	<5.0	<2.0	
Fluorene	(ug/l)	140000			<4.0	<5.0	<5.0	<2.0	
Indeno(1,2,3-cd)pyrene	(ug/l)	NE			<4.0	<5.0	<5.0	<2.0	
Naphthalene	(ug/l)	NE			<4.00	<5.0	<5.0	3.2JJ	
Phenanthrene	(ug/l)	230 (1)			<4.0	<5.0	<5.0	<2.0	
Pyrene	(ug/l)	110000			<4.0	<5.0	<5.0	<2.0	
C9-C18 Aliphatics (FID)	(ug/l)	770 (2)			<100	<100	<100	<71	
C19-C36 Aliphatics (FID)	(ug/l)	530 (2)			<100	<100	<100	<71	
C11-C22 Aromatics	(ug/l)	250 (2)			199	121	200	130	
Metals (Total)									
Arsenic	(ug/l)	10 (1)	{11.1}	{12.0}	{21.3}	5.1	5.1	2.9BJ	<2.9
Beryllium	(ug/l)	20 (1)	5.1	3.3BJ	<0.25	<0.18	<4.0	<0.18	<0.25
Copper	(ug/l)	310 (1)	91	10.8BJ	<7.0	<3.6	<25	<3.6	<7.0
Nickel	(ug/l)	880	168	93.9	30.2BJ	9.1BJ	<40	<0.57	95.0
Vanadium	(ug/l)	4400(1)	23.2	16.9	<2.8	1.1BJ	<10	<0.72	<2.8
Zinc	(ug/l)	8100(1)	267	167	58.3	34.1	<20	<13.1BU	9.6B
СТ ЕТРН									
ETPH	(mg/l)	0.5(1)				0.421			
Field Parameters									
рН		NE			6.48	6.58	6.3		5.21
ORP	(mv)	NE			-55.6	51.2	-35.2		264.8
Dissolved Oxygen	(mg/l)	NE			0.71	2.56	1.14		10.35
Specific Conductivity	(us/cm)	NE			0.239	0.121	0.251		0.173
Temperature	(deg.c)	NE			7.38	14.88	18.81		9.2
Turbidity	(ntu)	NE			1.7	0.5	0.4		0.4

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Detection Limit (Inorganics)

All results have been validated.

Montville Power LLC Montville, CT

CONSTITUENT	UNITS	SWPC	MW-11 12/4/2014 Primary	NRG-MW-07 3/11/2014 Primary	NRG-MW-07 6/11/2014 Primary	NRG-MW-07 9/25/2014 Primary	NRG-MW-07 12/4/2014 Primary
ЕРН							
2-Methylnaphthalene	(ug/l)	NE		<4.00	<5.1	<5.1	<2.00
Acenaphthene	(ug/l)	NE		<4.0	<5.1	<5.1	<2.0
Acenaphthylene	(ug/l)	130 (1)		<4.0	<5.1	<5.1	<2.0
Anthracene	(ug/l)	1100000		<4.0	<5.1	<5.1	<2.0
Benzo(a)anthracene	(ug/l)	0.3		<4.0	<5.1	<5.1	<2.0
Benzo(a)pyrene	(ug/l)	0.3		<4.0	<5.1	<5.1	<2.0
Benzo(b)fluoranthene	(ug/l)	0.3		<4.0	<5.1	<5.1	<2.0
Benzo(ghi)perylene	(ug/l)	NE		<4.0	<5.1	<5.1	<2.0
Benzo(k)fluoranthene	(ug/l)	0.3		<4.0	<5.1	<5.1	<2.0
Chrysene	(ug/l)	NE		<4.0	<5.1	<5.1	<2.0
Dibenzo(a,h)anthracene	(ug/l)	NE		<4.0	<5.1	<5.1	<2.0
Fluoranthene	(ug/l)	3700		<4.0	<5.1	<5.1	<2.0
Fluorene	(ug/l)	140000		<4.0	<5.1	<5.1	<2.0
Indeno(1,2,3-cd)pyrene	(ug/l)	NE		<4.0	<5.1	<5.1	<2.0
Naphthalene	(ug/l)	NE		<4.00	<5.1	<5.1	<2.00
Phenanthrene	(ug/l)	230 (1)		<4.0	<5.1	<5.1	<2.0
Pyrene	(ug/l)	110000		<4.0	<5.1	<5.1	<2.0
C9-C18 Aliphatics (FID)	(ug/l)	770 (2)		<100	<100	<100	<70
C19-C36 Aliphatics (FID)	(ug/l)	530 (2)		<100	<100	<100	<70
C11-C22 Aromatics	(ug/l)	250 (2)		<100	<100	<100	<70
Metals (Total)	, ,,						
Arsenic	(ug/l)	10 (1)	<2.4	{16.0}	{14.1}	{30.7}	{16.7}
Beryllium	(ug/l)	20 (1)	<0.40	<0.25	<0.18	<4.0	<0.18
Copper	(ug/l)	310 (1)	<3.6	<7.0	<3.6	<25	<3.6
Nickel	(ug/l)	880	29.7	11.5BJ	17.4BJ	<40	14.8BJ
Vanadium	(ug/l)	4400(1)	1.4B	<2.8	<0.72	<10	<0.72
Zinc	(ug/l)	8100(1)	20.9	69.4	86.3	41.4	115J
СТ ЕТРН	,	, ,					
ETPH	(mg/l)	0.5(1)			0.101		
Field Parameters							
pH		NE	5.45	6.67	6.81	6.45	
ORP	(mv)	NE	-20.1	3.9	-18.4	-79	
Dissolved Oxygen	(mg/l)	NE	3.94	0.49	0.23	0.55	
Specific Conductivity	(us/cm)	NE	0.232	1.237	1.565	2.854	
Temperature	(deg.c)	NE	11.56	10.14	13.53	17.07	
Turbidity	(ntu)	NE	0.3	22.6	0.4	0.3	

#### Notes:

SWPC = Surface Water Protection Criteria

--- = Constituent not analyzed for.

NE = None Established.

(1)= Approved Alternative and Additional SWPC in March 13, 2013 CTDEEP letter

(2) = July 2012 CTDEEP Technical Support Document **{BOLD}** = Result is above SWPC, Additional

or Alternative SWPC ug/L = micrograms per liter

mg/L = milligrams per liter

mS/cm = miscroseimens per centimeter

deg. C = degrees celcius

ntu = nephelometric turbidity unit

U = Non-detect per data validation

J = Analyte less than reporting limit (RL), but greater than Instrument Detection Limit or Method Detection Limit (Organics) or estimated based on data validation

B = Analyte less than reporting limit (RL), but greater than Instrument Detection Limit or Method

Detection Limit (Inorganics)

All results have been validated.

### Table 4

## Groundwater Analytical Results NRG-MW5 total Metals Compared to WQC

Montville Power LLC
Montville, Connecticut

	WQC	wqc								
	Chronic	Chronic	NRG-MW-05							
Constituent (ug/L)	Fresh	Salt	6/16/2011	9/26/2011	9/28/2012	5/8/2013	3/11/2014	6/11/2014	9/26/2014	12/5/2014
Arsenic	150	36	<4.0	1.8BJ	2.1BJ	<2.9	4.9	4.3	8.3	9.4
Beryllium	NE	NE	<4.0	<0.24	<0.28	<0.25	0.084BJ	0.093B	0.098BJ	0.055BJ
Copper	4.8	3.1	<25	<2.5	{3.2}BJ	<7.0	<0.89	<0.89	1.7BJ	0.61BJ
Nickel	28.9	8.2	<40	{9.9}BJ	{9.0}BJ	{11.5}BJ	{9.5}	{9.1}	{12.6}	{10.3}
Vanadium	NE	NE	<10	<1.5	1.5BJ	<2.8	4	3.3B	4.3	4.8
Zinc	65	81	20	25.3	<23.7U	<23.3U	<18.9U	15.1	19.7	<15.6U

#### Notes:

WQC = Numerical Water Quality Criteria for Chemical Constituents

ug/L = micrograms per liter

B = Less than detection limit (inorganics), lab qualifier

J - Less than detection limit, validation qualifier

U = Result determined to be non-detect at indicated detection limit, based on validation protocol.

{ } = Result is greater than WQC Chronic Fresh or WQC Chronic Salt

NE = None established



PROPERTY BOUNDARY FUEL OIL PIPING EXISTING FENCE LINE

LEGEND

GROUNDWATER MONITORING WELLS

RECOVERY WELL

SOIL BORING LOCATION

ELECTRICAL TOWER

AREA OF CONCERN (AOC)

DIESEL INTERNAL COMBUSTION (ICU) ENGINE UNITS

WETLAND LINE WETLAND FLAG APPROXIMATE LOCATION OF SEDIMENT SAMPLE

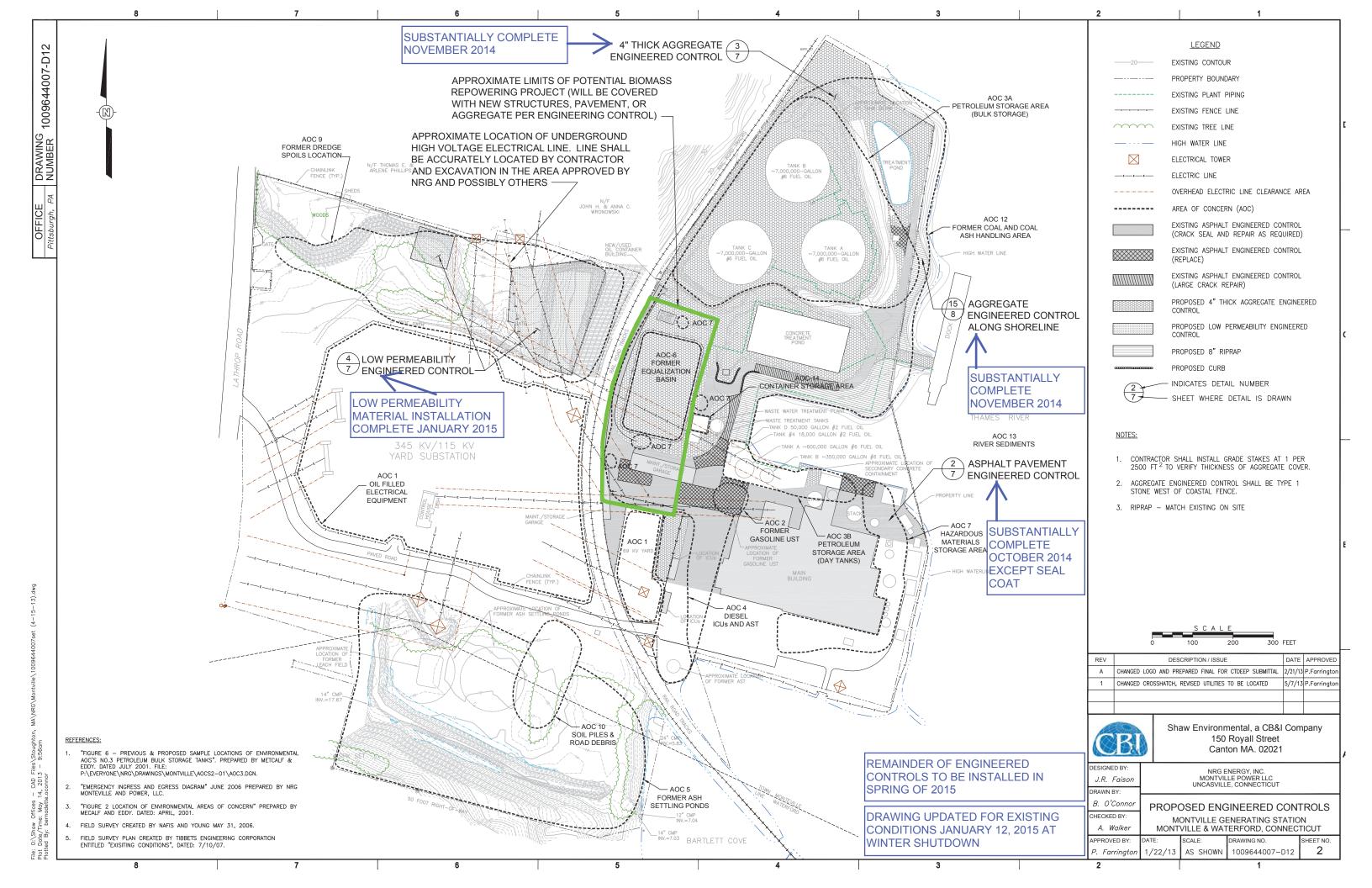
LOCATION OF SHALLOW SOIL BORINGS FORMER DREDGE MATERIALS LOCATION INVESTIGATION—OCTOBER, 2000

OCATION OF DEEP SOIL BORINGS FORMER REDGE MATERIALS LOCATION VVESTIGATION—OCTOBER, 2000

SHAW ENVIRONMENTAL, INC.,
A CB&I COMPANY
150 ROYALL STREET
CANTON, MASSACHUSETTS
(617) 589-5111

FIGURE 1

SITE PLAN





### **Data Usability Worksheet**

Project Name :	NRG Montville	Job Number :	1009644010
Prepared By:	Jennifer Gailey	Date :	
Validated By:	Kim Napier	Date :	10/31/2014
Matrix:	Groundwater		
Analyte Group :	MADEP	Analytical Method :	MADEP EPH
	Metals		EPA 6010C
Completed MADEP CA	AM Certification Form included: No	Laboratory ID No. :	MC33903
Chain of Custody inclu	uded in Data Package ? Yes	Is it Complete ? Yes	

Sample Collection Date	Analysis		Allowable Holding Time for analysis	Analysis Date
9/25/2014	6010C		180 Days	9/25/14
9/25/2014	MADEP EPH	14 Days	40 Days	10/6/14

Sample temperature within QC limits: Yes. < 6.0° C

Surrogate Recovery

Are all % recoveries within the allowable range? Yes

If No, List sample ID where range was exceeded: NA

Are all MS/MSD sample recoveries within the QC limits? Yes If No, list sample ID, date and compound where limit was exceeded: NA

**Laboratory Control Samples** 

Are all laboratory control sample recoveries within the QC limits? NA If no, list sample ID where range was exceeded:

Equipment Field Blank ID : Trip Blank ID : EQ-1

Method Blank: 6010 C 9/29/2014 MADEP EPH 10/6/2014

Were any compounds identified in the method blank, field blank or trip blank above detection limits? No

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

RPD(s) for Serial Dilution for Copper, Nickel, Vanadium, Zinc are outside control limits for sample MP23657-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

No qualification necessary; Batch QC performed and as noted above results < 50X IDL

The precision for the parent and FD samples for the metals fraction for AOC3-SB-MW1 is questionable and results for both samples should be considered as estimated due to the variability of the reported results.

There were no issues with the parent and duplicate samples taken for the MADEP EPH fraction for AOC12-MW306 location since results were non-detect for all targets for both samples.

No validation qualifiers assigned. Data acceptable as reported.

Reviewed By:



10/08/14



## **Technical Report for**

**Shaw Environmental & Infrastructure** 

NRG Montville Lathrop Road, Montville, CT

1009644010 PO# 892218

Accutest Job Number: MC33903

**Sampling Date: 09/25/14** 

### Report to:

vallerie.sasso@shawgrp.com

ATTN: Distribution6

Total number of pages in report: 38



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

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## **Sample Summary**

Job No:

MC33903

Shaw Environmental & Infrastructure

NRG Montville Lathrop Road, Montville, CT Project No: 1009644010 PO# 892218

_						
Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
MC33903-1	09/25/14	08:00 DL	09/25/14	AQ	Equipment Blank	EQ-1
MC33903-2	09/25/14	08:50 DL	09/25/14	AQ	Ground Water	NRG-MW7
MC33903-3	09/25/14	09:45 DL	09/25/14	AQ	Ground Water	AOC3-SB4-MW2
MC33903-4	09/25/14	10:50 DL	09/25/14	AQ	Ground Water	AOC12-MW301
MC33903-5	09/25/14	11:55 DL	09/25/14	AQ	Ground Water	AOC12-MW306
MC33903-6	09/25/14	11:55 DL	09/25/14	AQ	Ground Water	AOC12-MW306 DUP
MC33903-7	09/25/14	13:15 DL	09/25/14	AQ	Ground Water	AOC3-SB1-MW1
MC33903-8	09/25/14	13:15 DL	09/25/14	AQ	Ground Water	AOC3-SB1-MW1 DUP
MC33903-9	09/25/14	15:45 DL	09/25/14	AQ	Ground Water	AOC12-MW305





### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Shaw Environmental & Infrastructure Job No MC33903

Site: NRG Montville Lathrop Road, Montville, CT Report Date 10/8/2014 9:13:58 AM

9 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 09/25/2014 and were received at Accutest on 09/25/2014 properly preserved, at 0.8 Deg. C and intact. These Samples received an Accutest job number of MC33903. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Extractables by GC By Method MADEP EPH REV 1.1

Matrix: AO Batch ID: OP40011

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

### Metals By Method SW846 6010C

Matrix: AQ Batch ID: MP23657

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC33872-2SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Copper, Nickel, Vanadium, Zinc are outside control limits for sample MP23657-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</p>
- Only selected metals requested.

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC33903).

**Summary of Hits Job Number:** MC33903

Account: Shaw Environmental & Infrastructure **Project:** NRG Montville Lathrop Road, Montville, CT

**Collected:** 09/25/14

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC33903-1	EQ-1					
No hits reported	in this sample.					
MC33903-2	NRG-MW7					
Arsenic Zinc		30.7 41.4	4.0 20		ug/l ug/l	SW846 6010C SW846 6010C
MC33903-3	AOC3-SB4-MW2					
C11-C22 Aroma C11-C22 Aroma Arsenic		203 200 5.1	100 100 4.0		ug/l ug/l ug/l	MADEP EPH REV 1.1 MADEP EPH REV 1.1 SW846 6010C
MC33903-4	AOC12-MW301					
Arsenic Zinc		7.6 36.7	4.0 20		ug/l ug/l	SW846 6010C SW846 6010C
MC33903-5	AOC12-MW306					
Arsenic Vanadium Zinc		62.7 27.9 47.6	4.0 10 20		ug/l ug/l ug/l	SW846 6010C SW846 6010C SW846 6010C
MC33903-6	AOC12-MW306 I	OUP				
No hits reported	in this sample.					
MC33903-7	AOC3-SB1-MW1					
Beryllium Copper Nickel Vanadium Zinc		5.4 59.5 130 10.9 235	4.0 25 40 10 20		ug/l ug/l ug/l ug/l ug/l	SW846 6010C SW846 6010C SW846 6010C SW846 6010C SW846 6010C
MC33903-8	AOC3-SB1-MW1	DUP				
Arsenic Beryllium Copper Nickel Vanadium		47.0 16.5 491 601 80.6	4.0 4.0 25 40 10		ug/l ug/l ug/l ug/l ug/l	SW846 6010C SW846 6010C SW846 6010C SW846 6010C SW846 6010C



**Summary of Hits Job Number:** MC33903

Account: Shaw Environmental & Infrastructure

**Project:** NRG Montville Lathrop Road, Montville, CT

**Collected:** 09/25/14

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Zinc		860	20		ug/l	SW846 6010C
MC33903-9	AOC12-MW305					
Arsenic		39.8	4.0		ug/l	SW846 6010C



Sample Results
Report of Analysis



### 4

## **Report of Analysis**

Client Sample ID: EQ-1

 Lab Sample ID:
 MC33903-1
 Date Sampled:
 09/25/14

 Matrix:
 AQ - Equipment Blank
 Date Received:
 09/25/14

 Method:
 MADEP EPH REV 1.1 SW846 3510C
 Percent Solids:
 n/a

Project: NRG Montville Lathrop Road, Montville, CT

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BJ25497.D 1 10/06/14 SZ 09/29/14 OP40011 GBJ965

Run #2

Run #1 1000 ml 2.0 ml

Run #2

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	5.0	ug/l
208-96-8	Acenaphthylene	ND	5.0	ug/l
120-12-7	Anthracene	ND	5.0	ug/l
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l
218-01-9	Chrysene	ND	5.0	ug/l
53-70-3	Dibenz(a,h)anthracene	ND	5.0	ug/l
206-44-0	Fluoranthene	ND	5.0	ug/l
86-73-7	Fluorene	ND	5.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
85-01-8	Phenanthrene	ND	5.0	ug/l
129-00-0	Pyrene	ND	5.0	ug/l
	C11-C22 Aromatics (Unadj.)	ND	100	ug/l
	C9-C18 Aliphatics	ND	100	ug/l
	C19-C36 Aliphatics	ND	100	ug/l
	C11-C22 Aromatics	ND	100	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	110%		40-140%
321-60-8	2-Fluorobiphenyl	88%		40-140%
3386-33-2	1-Chlorooctadecane	43%		40-140%
580-13-2	2-Bromonaphthalene	85%		40-140%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



## **Report of Analysis**

Client Sample ID: EQ-1

Lab Sample ID:MC33903-1Date Sampled:09/25/14Matrix:AQ - Equipment BlankDate Received:09/25/14Percent Solids:n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

### **Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	< 4.0	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	< 25	25	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	< 40	40	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	< 10	10	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	< 20	20	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562

(2) Prep QC Batch: MP23657

### 4

## **Report of Analysis**

Client Sample ID: NRG-MW7

Lab Sample ID: MC33903-2 Date Sampled: 09/25/14

Matrix: AQ - Ground Water Date Received: 09/25/14

Method: MADEP EPH REV 1.1 SW846 3510C Percent Solids: n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	BJ25498.D	1	10/06/14	SZ	09/29/14	OP40011	GBJ965

Run #2

	Initial Volume	Final Volume
Run #1	990 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	5.1	ug/l
208-96-8	Acenaphthylene	ND	5.1	ug/l
120-12-7	Anthracene	ND	5.1	ug/l
56-55-3	Benzo(a)anthracene	ND	5.1	ug/l
50-32-8	Benzo(a)pyrene	ND	5.1	ug/l
205-99-2	Benzo(b)fluoranthene	ND	5.1	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	5.1	ug/l
207-08-9	Benzo(k)fluoranthene	ND	5.1	ug/l
218-01-9	Chrysene	ND	5.1	ug/l
53-70-3	Dibenz(a,h)anthracene	ND	5.1	ug/l
206-44-0	Fluoranthene	ND	5.1	ug/l
86-73-7	Fluorene	ND	5.1	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	ug/l
91-57-6	2-Methylnaphthalene	ND	5.1	ug/l
91-20-3	Naphthalene	ND	5.1	ug/l
85-01-8	Phenanthrene	ND	5.1	ug/l
129-00-0	Pyrene	ND	5.1	ug/l
	C11-C22 Aromatics (Unadj.)	ND	100	ug/l
	C9-C18 Aliphatics	ND	100	ug/l
	C19-C36 Aliphatics	ND	100	ug/l
	C11-C22 Aromatics	ND	100	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	93%		40-140%
321-60-8	2-Fluorobiphenyl	71%		40-140%
3386-33-2	1-Chlorooctadecane	54%		40-140%
580-13-2	2-Bromonaphthalene	71%		40-140%

ND = Not detected J = Indicates an estimated value

RL = Reporting Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



## **Report of Analysis**

Client Sample ID: NRG-MW7

Lab Sample ID: MC33903-2 Date Sampled: 09/25/14

Matrix: AQ - Ground Water Date Received: 09/25/14

Percent Solids: n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

### **Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	30.7	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	< 4.0	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	< 25	25	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	< 40	40	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	< 10	10	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	41.4	20	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562

(2) Prep QC Batch: MP23657

## **Report of Analysis**

 Client Sample ID:
 AOC3-SB4-MW2

 Lab Sample ID:
 MC33903-3
 Date Sampled:
 09/25/14

 Matrix:
 AQ - Ground Water
 Date Received:
 09/25/14

 Method:
 MADEP EPH REV 1.1 SW846 3510C
 Percent Solids:
 n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
Run #1	BJ25499.D	1	10/06/14	SZ	09/29/14	OP40011	GBJ965
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	5.0	ug/l
208-96-8	Acenaphthylene	ND	5.0	ug/l
120-12-7	Anthracene	ND	5.0	ug/l
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l
218-01-9	Chrysene	ND	5.0	ug/l
53-70-3	Dibenz(a,h)anthracene	ND	5.0	ug/l
206-44-0	Fluoranthene	ND	5.0	ug/l
86-73-7	Fluorene	ND	5.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
85-01-8	Phenanthrene	ND	5.0	ug/l
129-00-0	Pyrene	ND	5.0	ug/l
	C11-C22 Aromatics (Unadj.)	203	100	ug/l
	C9-C18 Aliphatics	ND	100	ug/l
	C19-C36 Aliphatics	ND	100	ug/l
	C11-C22 Aromatics	200	100	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	122%		40-140%
321-60-8	2-Fluorobiphenyl	95%		40-140%
3386-33-2	1-Chlorooctadecane	59%		40-140%
580-13-2	2-Bromonaphthalene	93%		40-140%

ND = Not detected J = Indicates an estimated value

RL = Reporting Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

## **Report of Analysis**

Client Sample ID: AOC3-SB4-MW2
Lab Sample ID: MC33903-3
Matrix: AQ - Ground Water
Date Sampled: 09/25/14
Percent Solids: n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

### **Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	<b>Prep Method</b>
Arsenic	5.1	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	< 4.0	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	< 25	25	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	< 40	40	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	< 10	10	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	< 20	20	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562(2) Prep QC Batch: MP23657

### **Report of Analysis**

Client Sample ID: AOC12-MW301

Lab Sample ID: MC33903-4

Matrix: AQ - Ground Water

Date Sampled: 09/25/14

Percent Solids: n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	7.6	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	< 4.0	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	< 25	25	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	< 40	40	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	< 10	10	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	36.7	20	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562

(2) Prep QC Batch: MP23657

#### 4

### **Report of Analysis**

 Client Sample ID:
 AOC12-MW306

 Lab Sample ID:
 MC33903-5
 Date Sampled:
 09/25/14

 Matrix:
 AQ - Ground Water
 Date Received:
 09/25/14

 Method:
 MADEP EPH REV 1.1
 SW846 3510C
 Percent Solids:
 n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	BJ25500.D	1	10/06/14	SZ	09/29/14	OP40011	GBJ965
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	5.0	ug/l
208-96-8	Acenaphthylene	ND	5.0	ug/l
120-12-7	Anthracene	ND	5.0	ug/l
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l
218-01-9	Chrysene	ND	5.0	ug/l
53-70-3	Dibenz(a,h)anthracene	ND	5.0	ug/l
206-44-0	Fluoranthene	ND	5.0	ug/l
86-73-7	Fluorene	ND	5.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
85-01-8	Phenanthrene	ND	5.0	ug/l
129-00-0	Pyrene	ND	5.0	ug/l
	C11-C22 Aromatics (Unadj.)	ND	100	ug/l
	C9-C18 Aliphatics	ND	100	ug/l
	C19-C36 Aliphatics	ND	100	ug/l
	C11-C22 Aromatics	ND	100	ug/l
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	105%		40-140%
321-60-8	2-Fluorobiphenyl	88%		40-140%
3386-33-2	1-Chlorooctadecane	48%		40-140%
580-13-2	2-Bromonaphthalene	86%		40-140%

ND = Not detected J = Indicates an estimated value

RL = Reporting Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: AOC12-MW306

Lab Sample ID: MC33903-5

Matrix: AQ - Ground Water

Date Sampled: 09/25/14

Percent Solids: n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	62.7	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	< 4.0	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	< 25	25	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	< 40	40	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	27.9	10	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	47.6	20	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562(2) Prep QC Batch: MP23657



### 4

### **Report of Analysis**

Client Sample ID: AOC12-MW306 DUP

 Lab Sample ID:
 MC33903-6
 Date Sampled:
 09/25/14

 Matrix:
 AQ - Ground Water
 Date Received:
 09/25/14

 Method:
 MADEP EPH REV 1.1 SW846 3510C
 Percent Solids:
 n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BJ25501.D 1 10/06/14 SZ 09/29/14 OP40011 GBJ965

Run #2

Run #1 1000 ml 2.0 ml

Kuii	π_

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	5.0	ug/l
208-96-8	Acenaphthylene	ND	5.0	ug/l
120-12-7	Anthracene	ND	5.0	ug/l
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l
218-01-9	Chrysene	ND	5.0	ug/l
53-70-3	Dibenz(a,h)anthracene	ND	5.0	ug/l
206-44-0	Fluoranthene	ND	5.0	ug/l
86-73-7	Fluorene	ND	5.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
85-01-8	Phenanthrene	ND	5.0	ug/l
129-00-0	Pyrene	ND	5.0	ug/l
	C11-C22 Aromatics (Unadj.)	ND	100	ug/l
	C9-C18 Aliphatics	ND	100	ug/l
	C19-C36 Aliphatics	ND	100	ug/l
	C11-C22 Aromatics	ND	100	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	123%		40-140%
321-60-8	2-Fluorobiphenyl	96%		40-140%
3386-33-2	1-Chlorooctadecane	63%		40-140%
580-13-2	2-Bromonaphthalene	94%		40-140%

ND = Not detected RL = Reporting Limit

KL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = \ Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: AOC3-SB1-MW1

Lab Sample ID: MC33903-7

Matrix: AQ - Ground Water

Date Sampled: 09/25/14

Percent Solids: n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

## Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	5.4	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	59.5	25	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	130	40	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	10.9	10	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	235	20	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562(2) Prep QC Batch: MP23657

### **Report of Analysis**

Client Sample ID: AOC3-SB1-MW1 DUP

Lab Sample ID:MC33903-8Date Sampled:09/25/14Matrix:AQ - Ground WaterDate Received:09/25/14Percent Solids:n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	47.0	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	16.5	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	491	25	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	601	40	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	80.6	10	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	860	20	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562

(2) Prep QC Batch: MP23657

### 4

### **Report of Analysis**

 Client Sample ID:
 AOC12-MW305

 Lab Sample ID:
 MC33903-9
 Date Sampled:
 09/25/14

 Matrix:
 AQ - Ground Water
 Date Received:
 09/25/14

 Method:
 MADEP EPH REV 1.1 SW846 3510C
 Percent Solids:
 n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	BJ25502.D	1	10/06/14	SZ	09/29/14	OP40011	GBJ965
Run #2							

Run #1 1000 ml 2.0 ml
Run #2

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	5.0	ug/l
208-96-8	Acenaphthylene	ND	5.0	ug/l
120-12-7	Anthracene	ND	5.0	ug/l
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l
218-01-9	Chrysene	ND	5.0	ug/l
53-70-3	Dibenz(a,h)anthracene	ND	5.0	ug/l
206-44-0	Fluoranthene	ND	5.0	ug/l
86-73-7	Fluorene	ND	5.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
85-01-8	Phenanthrene	ND	5.0	ug/l
129-00-0	Pyrene	ND	5.0	ug/l
	C11-C22 Aromatics (Unadj.)	ND	100	ug/l
	C9-C18 Aliphatics	ND	100	ug/l
	C19-C36 Aliphatics	ND	100	ug/l
	C11-C22 Aromatics	ND	100	ug/l
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	102%		40-140%
321-60-8	2-Fluorobiphenyl	79%		40-140%
3386-33-2	1-Chlorooctadecane	78%		40-140%
580-13-2	2-Bromonaphthalene	77%		40-140%

ND = Not detected J = Indicates an estimated value

RL = Reporting Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

### 4

### **Report of Analysis**

Client Sample ID: AOC12-MW305

Lab Sample ID: MC33903-9

Matrix: AQ - Ground Water

Date Sampled: 09/25/14

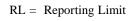
Percent Solids: n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	39.8	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	< 4.0	4.0	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	< 25	25	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	< 40	40	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	< 10	10	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	< 20	20	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562(2) Prep QC Batch: MP23657







Misc. Forms

**Custody Documents and Other Forms** 

Includes the following where applicable:

- · Chain of Custody
- RCP Form
- Sample Tracking Chronicle



#### CHAIN OF CUSTODY

Accutest Laboratories of New England

LABGRATORIE	6	495 Technology Center West, Building One TEL, 508-481-6200 FAX: 508-481-7753																	
		112			FAX cutest.c		1-1/	35			Accu	lest Quote #			Acc	cuter-/ Job #	103	390	73
Client / Reporting Information					ormati							Remu	ested An	ilvsis (	see TES				Matrix Codes
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CB&I Environmental		ntville									_		e1)		TDEEP				DW - Drinking Water GW - Ground Water
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Project Contact E-mail	Project#	TITE, OI		Stree	1 Address						$\dashv$	(EPA	(Low		20			ļ	OI - Oil
Raymond Cadorette	100964												- 1		25				LIQ - Other Liquid AIR - Air
Phone # Fax #	Client PO#	NR6 1	OPICIN	City			St	ate		Zip		13	tals	\$	2				SOL - Other Solid WP - Wipe
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Sampler(s) Name(s) Phone #	Project Manager			Atten	tion:			p	O#		ŀ	l e	Ше	Þ	E				EB- Equipment Blank RB- Rinse Blank
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Std. 10 Business Days				L.		cial "B" (			_	NYASP Cat		-				io zworwo i u c z i u c	and		
Std. 5 Business Days (By Contract only)  5 Day RUSH	***************************************				CTRCP	{ Level 3-	14 }		; □=0:	State Forms EDD Forms	GISI	Key	CTDEP	RCP	and	site	spec	itic	QAPP.
5 Day RUSH 3 Day EMERGENCY	***************************************				MA-MCP					Other		f	Detec	ion	limi	ts mu	ıst m	eet	CT GA standar
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MC33903: Chain of Custody Page 1 of 2





# ACCUTES

### **Accutest Laboratories Sample Receipt Summary**

Accutest Job Number: MC3	3903 C	lient: CBI		Project: NRG MONTVILL	E		
Date / Time Received: 9/25/	2014 6:00:00 PM	Delivery Me	ethod:	Airbill #'s:			
Cooler Temps (Initial/Adjuste	d): #1: (0.8/0.8);	_					
Cooler Security  1. Custody Seals Present: 2. Custody Seals Intact:  Cooler Temperature  1. Temp criteria achieved: 2. Thermometer ID: 3. Cooler media: 4. No. Coolers:  Quality Control Preservation  1. Trip Blank present / cooler: 2. Trip Blank listed on COC: 3. Samples preserved properly:	☐ 4. Smp  Y or N  G1;  Ice (Bag)	OC Present:	Y or N	Sample Integrity - Documentation  1. Sample labels present on bottles: 2. Container labeling complete: 3. Sample container label / COC agree:  Sample Integrity - Condition  1. Sample recvd within HT: 2. All containers accounted for: 3. Condition of sample:  Sample Integrity - Instructions  1. Analysis requested is clear: 2. Bottles received for unspecified tests	<u>Y</u>	or N  or N  or N  Intact  or N   v	 N/A
VOCs headspace free:		$\checkmark$		Sufficient volume recvd for analysis:     Compositing instructions clear:     Filtering instructions clear:			<b>▽</b>
Comments				·			
Accutest Laboratories V:(508) 481-6200				nter West, Bldg One 481-7753			orough, MA 01752 accutest.com

MC33903: Chain of Custody Page 2 of 2



#### **Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form**

**Laboratory Name: Accutest New England** Client: Shaw Environmental & Infrastructure

NRG Montville Lathrop Road, Montville, **Project Location: Project Number:** 1009644010 PO#

Sampling Date(s): 9/25/2014

MC33903-5, MC33903-1, MC33903-2, MC33903-3, MC33903-4, MC33903-6, MC33903-Laboratory Sample ID(s):

7, MC33903-8, MC33903-9

Methods: MADEP EPH REV 1.1. SW846 6010C

wethous:	MADEP EPH REV 1.1, SW846 6010C	
1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes 🔽 No 🗖
1A	Where all the method specified preservation and holding time requirements met?	Yes ☑ No ☐
1B	VPH and EPH mehods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes ☑ No ☐ NA ☐
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes 🗹 No 🗖
3	Were samples received at an appropriate temperature (<6° C)?	Yes ☑ No ☐
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes No 🗆
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes 🗹 No 🗖
	b) Were these reporting limits met?	Yes No 🗹
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes □ No ⊡
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes No 🔽

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

l, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized

Signature:

Position: Lab Director

Printed Name: Reza Tand Accutest New England Date:

10/8/2014



Job No:

MC33903

### **Internal Sample Tracking Chronicle**

Shaw Environmental & Infrastructure

NRG Montville Lathrop Road, Montville, CT Project No: 1009644010 PO# 892218

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
MC33903-1 EQ-1	Collected: 25-SEP-14 (	08:00 By: DL	Receiv	ved: 25-SEP-	14 By:	
	SW846 6010C MADEP EPH REV 1.1	29-SEP-14 19:20 1 06-OCT-14 10:46		29-SEP-14 29-SEP-14		AS,BE,CU,NI,V,ZN BMAEPH
MC33903-2 NRG-MW7	2 Collected: 25-SEP-14 (	08:50 By: DL	Receiv	ved: 25-SEP-	14 By:	
	2 SW846 6010C 2 MADEP EPH REV 1.1	29-SEP-14 19:26 1 06-OCT-14 11:11		29-SEP-14 29-SEP-14		AS,BE,CU,NI,V,ZN BMAEPH
MC33903-3 AOC3-SB4	3 Collected: 25-SEP-14 ( -MW2	99:45 By: DL	Receiv	ved: 25-SEP-	14 By:	
	3 SW846 6010C 3 MADEP EPH REV 1.1	29-SEP-14 19:32 1 06-OCT-14 11:36		29-SEP-14 29-SEP-14		AS,BE,CU,NI,V,ZN BMAEPH
MC33903-4 AOC12-MV	Collected: 25-SEP-14 1 W301	0:50 By: DL	Receiv	ved: 25-SEP-	14 By:	
MC33903-4	SW846 6010C	29-SEP-14 19:37	EAL	29-SEP-14	KR	AS,BE,CU,NI,V,ZN
MC33903-5 AOC12-MV	5 Collected: 25-SEP-14 1 W306	1:55 By: DL	Receiv	ved: 25-SEP-	14 By:	
	5 SW846 6010C 5 MADEP EPH REV 1.1	29-SEP-14 19:43 1 06-OCT-14 12:01		29-SEP-14 29-SEP-14		AS,BE,CU,NI,V,ZN BMAEPH
MC33903-6 AOC12-MV	5 Collected: 25-SEP-14 1 W306 DUP	1:55 By: DL	Receiv	ved: 25-SEP-	14 By:	
MC33903-6	MADEP EPH REV 1.1	1 06-OCT-14 12:26	SZ	29-SEP-14	PA	ВМАЕРН
MC33903-7 AOC3-SB1-	Collected: 25-SEP-14 1 -MW1	3:15 By: DL	Receiv	ved: 25-SEP-	14 By:	
MC33903-7	7 SW846 6010C	29-SEP-14 19:49	EAL	29-SEP-14	KR	AS,BE,CU,NI,V,ZN

# 5.3

## **Internal Sample Tracking Chronicle**

Shaw Environmental & Infrastructure

**Job No:** MC33903

NRG Montville Lathrop Road, Montville, CT Project No: 1009644010 PO# 892218

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
	3 Collected: 25-SEP-14 I	3:15 By: DL	Receiv	ved: 25-SEP-	14 By:	
MC33903-8	3 SW846 6010C	29-SEP-14 19:55	EAL	29-SEP-14	KR	AS,BE,CU,NI,V,ZN
MC33903-9 AOC12-MV	O Collected: 25-SEP-14 1 W305	15:45 By: DL	Receiv	ed: 25-SEP-	14 By:	
	9 SW846 6010C 9 MADEP EPH REV 1.1	29-SEP-14 20:18 1 06-OCT-14 12:56				AS,BE,CU,NI,V,ZN BMAEPH



### GC Semi-volatiles

### QC Data Summaries

### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method: MADEP EPH REV 1.1

### **Method Blank Summary**

**Job Number:** MC33903

Account: FDG Shaw Environmental & Infrastructure
Project: NRG Montville Lathrop Road, Montville, CT

Sample OP40011-MB	<b>File ID</b> BJ25494.D	<b>DF</b> 1	<b>Analyzed</b> 10/06/14	By SZ	<b>Prep Date</b> 09/29/14	Prep Batch OP40011	Analytical Batch GBJ965

#### The QC reported here applies to the following samples:

MC33903-1, MC33903-2, MC33903-3, MC33903-5, MC33903-6, MC33903-9

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	5.0	ug/l
208-96-8	Acenaphthylene	ND	5.0	ug/l
120-12-7	Anthracene	ND	5.0	ug/l
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l
218-01-9	Chrysene	ND	5.0	ug/l
53-70-3	Dibenz(a,h)anthracene	ND	5.0	ug/l
206-44-0	Fluoranthene	ND	5.0	ug/l
86-73-7	Fluorene	ND	5.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
85-01-8	Phenanthrene	ND	5.0	ug/l
129-00-0	Pyrene	ND	5.0	ug/l
	C11-C22 Aromatics (Unadj.)	ND	100	ug/l
	C9-C18 Aliphatics	ND	100	ug/l
	C19-C36 Aliphatics	ND	100	ug/l
	C11-C22 Aromatics	ND	100	ug/l

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	103%	40-140%
321-60-8	2-Fluorobiphenyl	79%	40-140%
3386-33-2	1-Chlorooctadecane	63%	40-140%
580-13-2	2-Bromonaphthalene	78%	40-140%



Method: MADEP EPH REV 1.1

### Blank Spike/Blank Spike Duplicate Summary

Job Number: MC33903

Account: FDG Shaw Environmental & Infrastructure **Project:** NRG Montville Lathrop Road, Montville, CT

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
OP40011-BS	BJ25495.D	1	10/06/14	SZ	09/29/14	OP40011	GBJ965
OP40011-BSD	BJ25496.D	1	10/06/14	SZ	09/29/14	OP40011	GBJ965

#### The QC reported here applies to the following samples:

MC33903-1, MC33903-2, MC33903-3, MC33903-5, MC33903-6, MC33903-9

	Spike	BSP	BSP	BSD	BSD		Limits
Compound	ug/l	ug/l	%	ug/l	%	RPD	Rec/RPD
Acenaphthene	50	28.3	57	28.9	58	2	40-140/25
Acenaphthylene	50	28.3	57	29.0	58	2	40-140/25
Anthracene	50	34.1	68	32.3	65	5	40-140/25
Benzo(a)anthracene	50	39.3	79	36.5	73	7	40-140/25
Benzo(a)pyrene	50	34.8	70	32.1	64	8	40-140/25
Benzo(b)fluoranthene	50	39.2	78	36.7	73	7	40-140/25
Benzo(g,h,i)perylene	50	40.6	81	37.1	74	9	40-140/25
Benzo(k)fluoranthene	50	39.3	79	35.7	71	10	40-140/25
Chrysene	50	39.8	80	36.9	74	8	40-140/25
Dibenz(a,h)anthracene	50	42.1	84	38.0	76	10	40-140/25
Fluoranthene	50	35.3	71	42.6	85	19	40-140/25
Fluorene	50	32.6	65	31.9	64	2	40-140/25
Indeno(1,2,3-cd)pyrene	50	35.0	70	33.1	66	6	40-140/25
2-Methylnaphthalene	50	28.5	57	29.7	59	4	40-140/25
Naphthalene	50	28.9	58	30.5	61	5	40-140/25
Phenanthrene	50	35.1	70	33.3	67	5	40-140/25
Pyrene	50	37.5	75	35.2	70	6	40-140/25
C11-C22 Aromatics (Unadj.)	800	647	81	607	76	6	40-140/25
C9-C18 Aliphatics	300	180	60	187	62	4	40-140/25
C19-C36 Aliphatics	400	315	79	312	78	1	40-140/25
	Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(b)fluoranthene Benzo(g,h,i)perylene Benzo(k)fluoranthene Chrysene Dibenz(a,h)anthracene Fluoranthene Fluorene Indeno(1,2,3-cd)pyrene 2-Methylnaphthalene Naphthalene Phenanthrene Pyrene C11-C22 Aromatics (Unadj.) C9-C18 Aliphatics	Compound         ug/l           Acenaphthene         50           Acenaphthylene         50           Anthracene         50           Benzo(a)anthracene         50           Benzo(a)pyrene         50           Benzo(b)fluoranthene         50           Benzo(g,h,i)perylene         50           Benzo(k)fluoranthene         50           Chrysene         50           Dibenz(a,h)anthracene         50           Fluoranthene         50           Fluorene         50           Indeno(1,2,3-cd)pyrene         50           2-Methylnaphthalene         50           Naphthalene         50           Phenanthrene         50           Pyrene         50           C11-C22 Aromatics (Unadj.)         800           C9-C18 Aliphatics         300	Compound         ug/l         ug/l           Acenaphthene         50         28.3           Acenaphthylene         50         28.3           Anthracene         50         34.1           Benzo(a)anthracene         50         39.3           Benzo(a)pyrene         50         39.3           Benzo(b)fluoranthene         50         39.2           Benzo(g,h,i)perylene         50         40.6           Benzo(k)fluoranthene         50         39.3           Chrysene         50         39.8           Dibenz(a,h)anthracene         50         42.1           Fluoranthene         50         35.3           Fluorene         50         35.3           Fluorene         50         35.0           2-Methylnaphthalene         50         28.5           Naphthalene         50         28.5           Phenanthrene         50         35.1           Pyrene         50         37.5           C11-C22 Aromatics (Unadj.)         800         647           C9-C18 Aliphatics         300         180	Compound         ug/l         ug/l         %           Acenaphthene         50         28.3         57           Acenaphthylene         50         28.3         57           Anthracene         50         34.1         68           Benzo(a)anthracene         50         39.3         79           Benzo(b)fluoranthene         50         39.2         78           Benzo(g,h,i)perylene         50         40.6         81           Benzo(k)fluoranthene         50         39.3         79           Chrysene         50         39.8         80           Dibenz(a,h)anthracene         50         35.3         71           Fluoranthene         50         35.3         71           Fluorene         50         32.6         65           Indeno(1,2,3-cd)pyrene         50         35.0         70           2-Methylnaphthalene         50         28.5         57           Naphthalene         50         35.1         70           Pyrene         50         37.5         75           C11-C22 Aromatics (Unadj.)         800         647         81           C9-C18 Aliphatics         300         180         60	Compound         ug/l         ug/l         %         ug/l           Acenaphthene         50         28.3         57         28.9           Acenaphthylene         50         28.3         57         29.0           Anthracene         50         34.1         68         32.3           Benzo(a)anthracene         50         39.3         79         36.5           Benzo(a)pyrene         50         34.8         70         32.1           Benzo(b)fluoranthene         50         39.2         78         36.7           Benzo(g,h,i)perylene         50         40.6         81         37.1           Benzo(k)fluoranthene         50         39.3         79         35.7           Chrysene         50         39.8         80         36.9           Dibenz(a,h)anthracene         50         39.8         80         36.9           Dibenz(a,h)anthracene         50         35.3         71         42.6           Fluoranthene         50         35.3         71         42.6           Fluorene         50         35.0         70         33.1           2-Methylnaphthalene         50         28.5         57         29.7	Compound         ug/l         ug/l         %         ug/l         %           Acenaphthene         50         28.3         57         28.9         58           Acenaphthylene         50         28.3         57         29.0         58           Anthracene         50         34.1         68         32.3         65           Benzo(a)anthracene         50         39.3         79         36.5         73           Benzo(b)fluoranthene         50         39.2         78         36.7         73           Benzo(g,h,i)perylene         50         40.6         81         37.1         74           Benzo(k)fluoranthene         50         39.3         79         35.7         71           Chrysene         50         39.8         80         36.9         74           Dibenz(a,h)anthracene         50         39.8         80         36.9         74           Dibenz(a,h)anthracene         50         35.3         71         42.6         85           Fluoranthene         50         35.3         71         42.6         85           Fluorene         50         35.0         70         33.1         66 <t< td=""><td>Compound         ug/l         ug/l         %         ug/l         %         RPD           Acenaphthene         50         28.3         57         28.9         58         2           Acenaphthylene         50         28.3         57         29.0         58         2           Anthracene         50         34.1         68         32.3         65         5           Benzo(a)anthracene         50         39.3         79         36.5         73         7           Benzo(a)pyrene         50         34.8         70         32.1         64         8           Benzo(b)fluoranthene         50         39.2         78         36.7         73         7           Benzo(g,h,i)perylene         50         40.6         81         37.1         74         9           Benzo(k)fluoranthene         50         39.3         79         35.7         71         10           Chrysene         50         39.8         80         36.9         74         8           Dibenz(a,h)anthracene         50         35.3         71         42.6         85         19           Fluoranthene         50         35.3         71         42</td></t<>	Compound         ug/l         ug/l         %         ug/l         %         RPD           Acenaphthene         50         28.3         57         28.9         58         2           Acenaphthylene         50         28.3         57         29.0         58         2           Anthracene         50         34.1         68         32.3         65         5           Benzo(a)anthracene         50         39.3         79         36.5         73         7           Benzo(a)pyrene         50         34.8         70         32.1         64         8           Benzo(b)fluoranthene         50         39.2         78         36.7         73         7           Benzo(g,h,i)perylene         50         40.6         81         37.1         74         9           Benzo(k)fluoranthene         50         39.3         79         35.7         71         10           Chrysene         50         39.8         80         36.9         74         8           Dibenz(a,h)anthracene         50         35.3         71         42.6         85         19           Fluoranthene         50         35.3         71         42

CAS No.	Surrogate Recoveries	BSP	BSD	Limits	
84-15-1 321-60-8 3386-33-2 580-13-2	21-60-8 2-Fluorobiphenyl 386-33-2 1-Chlorooctadecane		94% 73% 60% 72%	40-140% 40-140% 40-140% 40-140%	
Sample	Compound	<b>Col</b> #1	Col #2	Breakthro	ugh Limit
OP40011-E	3S 2-Methylnaphthalene 3S Naphthalene	28.5	0.064	0.2%	5.0

<sup>\* =</sup> Outside of Control Limits.



### Semivolatile Surrogate Recovery Summary

**Job Number:** MC33903

Account: FDG Shaw Environmental & Infrastructure
Project: NRG Montville Lathrop Road, Montville, CT

Method: MADEP EPH REV 1.1 Matrix: AQ

#### Samples and QC shown here apply to the above method

Lab	Lab				
Sample ID	File ID	<b>S1</b> a	S2 a	<b>S3</b> b	<b>S4</b> a
MC33903-1	BJ25497.D	110	88	43	85
MC33903-2	BJ25498.D	93	71	54	71
MC33903-3	BJ25499.D	122	95	59	93
MC33903-5	BJ25500.D	105	88	48	86
MC33903-6	BJ25501.D	123	96	63	94
MC33903-9	BJ25502.D	102	79	78	77
OP40011-BS	BJ25495.D	100	77	66	76
OP40011-BSD	BJ25496.D	94	73	60	72
OP40011-MB	BJ25494.D	103	79	63	78

# Surrogate Recovery Compounds Limits

 S1 = o-Terphenyl
 40-140%

 S2 = 2-Fluorobiphenyl
 40-140%

 S3 = 1-Chlorooctadecane
 40-140%

 S4 = 2-Bromonaphthalene
 40-140%

(a) Recovery from GC signal #1(b) Recovery from GC signal #2





### Metals Analysis

### QC Data Summaries

### Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

#### Login Number: MC33903

Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP23657 Matrix Type: AQUEOUS Methods: SW846 6010C

Units: ug/l

Prep Date:

09/29/14

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	18	13		
Antimony	6.0	1	2.4		
Arsenic	4.0	1.3	2.4	-0.20	<4.0
Barium	50	.43	2		
Beryllium	4.0	.31	.18	0.0	<4.0
Bismuth	50	1.1	3		
Boron	100	1.2	3.4		
Cadmium	4.0	. 2	.24		
Calcium	5000	4.5	21		
Chromium	10	.37	.73		
Cobalt	50	.21	.6		
Copper	25	1.3	3.6	0.30	<25
Gold	50	1.7	1.4		
Iron	100	4.4	7.4		
Lead	5.0	.71	1.9		
Lithium	500	2.8	45		
Magnesium	5000	29	74		
Manganese	15	.18	.35		
Molybdenum	100	1.6	.81		
Nickel	40	.38	.57	-0.20	<40
Palladium	50	1.6	6.5		
Platinum	50	4.2	5.1		
Potassium	5000	81	69		
Selenium	10	1.4	2.7		
Silicon	100	7.1	21		
Silver	5.0	.33	.96		
Sodium	5000	16	22		
Sulfur	50	.32	9.7		
Strontium	10	1.9	.18		
Thallium	5.0	1.1	1.5		
Tin	100	.36	3.3		
Titanium	50	. 4	.89		
Tungsten	100	2.5	5.2		

## BLANK RESULTS SUMMARY Part 2 - Method Blanks

#### Login Number: MC33903

Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP23657 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/l

Prep Date:

09/29/14

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.33	.72	0.0	<10
Zinc	20	.32	4.2	1.2	<20
Zirconium	50	.47	1.3		

Associated samples MP23657: MC33903-1, MC33903-2, MC33903-3, MC33903-4, MC33903-5, MC33903-7, MC33903-8, MC33903-9

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC33903
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP23657 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/1

Prep Date: 09/29/14 09/29/14

Metal	BSP Result	Spikelot MPICP5	% Rec	QC Limits	BSD Result	Spikelot MPICP5		BSD RPD	QC Limit
Aluminum									
Antimony									
Arsenic	532	500	106.4	80-120	530	500	106.0	0.4	20
Barium	anr								
Beryllium	528	500	105.6	80-120	529	500	105.8	0.2	20
Bismuth									
Boron	anr								
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt									
Copper	490	500	98.0	80-120	483	500	96.6	1.4	20
Gold									
Iron									
Lead	anr								
Lithium	anr								
Magnesium									
Manganese									
Molybdenum									
Nickel	520	500	104.0	80-120	526	500	105.2	1.1	20
Palladium									
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium									
Sulfur									
Strontium	anr								
Thallium									
Tin									
Titanium									
Tungsten									

#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC33903
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP23657 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/29/14 09/29/14

Metal	BSP Result	Spikelot MPICP5	: % Rec	QC Limits	BSD Result	Spikelot MPICP5	% Rec	BSD RPD	QC Limit
Vanadium	532	500	106.4	80-120	530	500	106.0	0.4	20
Zinc	530	500	106.0	80-120	533	500	106.6	0.6	20
Zirconium									

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested



#### SERIAL DILUTION RESULTS SUMMARY

Login Number: MC33903 Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP23657 Methods: SW846 6010C Matrix Type: AQUEOUS Units:  $\mbox{ug/l}$ 

Prep Date: 09/29/14

Metal	MC33872- Original	·2 . SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron	anr			
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	1.70	0.00	100.0(a)	0-10
Gold				
Iron				
Lead	anr			
Lithium	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel	0.500	0.00	100.0(a)	0-10
Palladium				
Platinum				
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Sulfur				
Strontium	anr			
Thallium				
Tin				
Titanium				
Tungsten				

#### SERIAL DILUTION RESULTS SUMMARY

Login Number: MC33903 Account: FDG - Shaw Environmental & Infrastructure

Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP23657 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/l

Prep Date: 09/29/14

Metal	MC33872- Original	2 SDL 1:5	%DIF	QC Limits
Vanadium	0.600	0.00	100.0(a)	0-10
Zinc	2.70	11.4	322.2(a)	0-10
Zirconium				

Associated samples MP23657: MC33903-1, MC33903-2, MC33903-3, MC33903-4, MC33903-5, MC33903-7, MC33903-8,

MC33903-9

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits
(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).



### Report of Analysis

Page 1 of 1

Client Sample ID: AOC3-SB1-MW1 Lab Sample ID: MC33903-7

Date Sampled: 09/25/14

Matrix:

AQ - Ground Water

Date Received: 09/25/14 Percent Solids: n/a

Project:

NRG Montville Lathrop Road, Montville, CT

#### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	<4.0 W		ug/l	1		09/29/14 EAL		SW846 3010A <sup>2</sup>
Beryllium	5.4 J		ug/i	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	59.5 J	25	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	130 J		ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	10.9 J	10	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	235 J	20	ug/l	1	09/29/14	09/29/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562

(2) Prep QC Batch: MP23657



### Report of Analysis

Page 1 of 1

Client Sample ID: AOC3-SB1-MW1 DUP

Lab Sample ID:

MC33903-8

Matrix:

AQ - Ground Water

Date Sampled: 09/25/14

Date Received: 09/25/14

Percent Solids: n/a

Project:

NRG Montville Lathrop Road, Montville, CT

#### Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic Beryllium Copper Nickel Vanadium Zinc	47.0 I 16.5 I 491 I 601 I 80.6 I 860 I	4.0 25 40 10	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1	09/29/14 09/29/14 09/29/14 09/29/14	09/29/14 EAL 09/29/14 EAL 09/29/14 EAL 09/29/14 EAL 09/29/14 EAL	SW846 6010C <sup>1</sup> SW846 6010C <sup>1</sup> SW846 6010C <sup>1</sup> SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17562

(2) Prep QC Batch: MP23657



#### **Data Usability Worksheet**

Project Name : NRG Montville Job Number :

Prepared By: Jennifer Gailey
Validated By: Kim Napier

Kim Napier

Date : 10/31/2014

Analyte Group : MADEP

Metals

Groundwater

Analytical Method : MADEP EPH

EPA 6010C EPA 6020A

1009644010

Completed RCP Certification Form included: Yes Laboratory ID No.: MC33943

Chain of Custody included in Data Package ? Yes Is it Complete ? Yes

Samuela Callantian Data			Allowable Holding	Amakasia Data
Sample Collection Date	Analysis	Time for extraction	Time for analysis	Analysis Date
9/26/2014	6010C		180 Days	10/7/14
9/26/2014	6020A		180 Days	10/1/14
9/26/2014	MADEP EPH	14 Days	40 Days	10/3/14

Sample temperature within QC limits: Yes, < 6.0° C

Surrogate Recovery

Are all % recoveries within the allowable range? No If No, List sample ID where range was exceeded: See Notes

MS/MSD

Matrix:

Are all MS/MSD sample recoveries within the QC limits?

If No, list sample ID, date and compound where limit was exceeded: See Notes

**Laboratory Control Samples** 

Are all laboratory control sample recoveries within the QC limits ?

s? NA

If no, list sample ID where range was exceeded: See Notes

Equipment Field Blank ID: None Trip Blank ID: None

Method Blank: 6010 C 10/3/2014

6020A 9/30/2014 MADEP EPH 10/3/2014

Were any compounds identified in the method blank, field blank or trip blank above detection limits?

If so, list Sample ID/Compound/Concentration/Units: NA

Notes:

6010C

Sample(s) MC33943-1 have compounds reported with "D" qualifiers indicating results from the diluted analysis.

No qualification necessary

RPD(s) for Serial Dilution for Vanadium, Zinc are outside control limits for sample MP23691-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Batch QC/ Not NRG Sample/No qualification necessary

6020A

RPD(s) for Serial Dilution for Beryllium, Copper are outside control limits for sample MP23669-SD1. Percent difference

acceptable due to low initial sample concentration (< 50 times IDL).

Batch QC/ Not NRG Sample/No qualification necessary

MP23669-SD1 for Vanadium, Zinc: Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

Batch QC/ Not NRG Sample/No qualification necessary

Data acceptable as reported. Results flagged with "B" from lab qualified as estimated. No other qualification necessary.

Reviewed By:



10/20/14



### Technical Report for

Shaw Environmental & Infrastructure

NRG Montville Lathrop Rd. Uncasville, CT

1009644010 PO# 892218

Accutest Job Number: MC33943

Sampling Date: 09/26/14

### Report to:

CB&I

jennifer.gailey@cbifederalservices.com

Total number of pages in report: 29



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

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Lab Director

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### **Sample Summary**

Shaw Environmental & Infrastructure

**Job No:** MC33943

NRG Montville Lathrop Rd. Uncasville, CT Project No: 1009644010 PO# 892218

Sample Number	Collected Date	Time By	Received	Matri Code	<del></del>	Client Sample ID
MC33943-1	09/26/14	08:15 DL	09/29/14	AQ	Ground Water	NRG-MW3
MC33943-2	09/26/14	09:50 DL	09/29/14	AQ	Ground Water	NRG-MW5
MC33943-3	09/26/14	11:15 DL	09/29/14	AQ	Ground Water	AOC5-MW202





#### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Shaw Environmental & Infrastructure Job No MC33943

Site: NRG Montville Lathrop Rd. Uncasville, CT Report Date 10/9/2014 9:45:17 AM

3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 09/26/2014 and were received at Accutest on 09/29/2014 properly preserved, at 1.4 Deg. C and intact. These Samples received an Accutest job number of MC33943. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

#### Extractables by GC By Method MADEP EPH REV 1.1

Matrix: AO Batch ID: OP40018

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

#### Metals By Method SW846 6010C

Matrix: AQ Batch ID: MP23691

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC33992-3SDL were used as the QC samples for metals.
- Sample(s) MC33943-1 have compounds reported with "D" qualifiers indicating results from the diluted analysis.
- RPD(s) for Serial Dilution for Vanadium, Zinc are outside control limits for sample MP23691-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

### Metals By Method SW846 6020A

Matrix: AO Batch ID: MP23669

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC33894-3FSDL were used as the QC samples for metals.
- Sample(s) MC33943-2 have compounds reported with "D" qualifiers indicating results from the diluted analysis.
- RPD(s) for Serial Dilution for Beryllium, Copper are outside control limits for sample MP23669-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</li>
- MP23669-SD1 for Vanadium, Zinc: Serial Dilution RPD acceptable due to low duplicate and sample concentrations.
- Only selected metals requested.

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC33943).

**Summary of Hits Job Number:** MC33943

Account: Shaw Environmental & Infrastructure

Project: NRG Montville Lathrop Rd. Uncasville, CT

**Collected:** 09/26/14

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC33943-1	NRG-MW3					
Nickel Vanadium Zinc		2.0 B 5.3 B 11.0 B	40 10 20	0.57 0.72 4.2	ug/l ug/l ug/l	SW846 6010C SW846 6010C SW846 6010C
MC33943-2	NRG-MW5					
Arsenic Beryllium Copper Nickel Vanadium Zinc		8.3 0.098 B 1.7 B 12.6 4.3 19.7	1.0 1.0 2.0 2.0 4.0 4.0	0.18 0.035 0.25 0.048 0.19 3.3	ug/l ug/l ug/l ug/l ug/l ug/l	SW846 6020A SW846 6020A SW846 6020A SW846 6020A SW846 6020A SW846 6020A

#### MC33943-3 AOC5-MW202

No hits reported in this sample.



Sample Results		
Report of Analysis		



### 4

### **Report of Analysis**

Client Sample ID: NRG-MW3 Lab Sample ID: MC33943-1

Lab Sample ID:MC33943-1Date Sampled:09/26/14Matrix:AQ - Ground WaterDate Received:09/29/14Percent Solids:n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	10/03/14	10/07/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.18 U	4.0	0.18	ug/l	1	10/03/14	10/07/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	3.6 U	25	3.6	ug/l	1	10/03/14	10/07/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	2.0 B	40	0.57	ug/l	1	10/03/14	10/07/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	5.3 B	10	0.72	ug/l	1	10/03/14	10/07/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	11.0 B	20	4.2	ug/l	1	10/03/14	10/07/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17588

(2) Prep QC Batch: MP23691

RL = Reporting Limit

MDL = Method Detection Limit

U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



# 4

# **Report of Analysis**

**Client Sample ID:** NRG-MW5 **Lab Sample ID:** MC33943-2

Lab Sample ID:MC33943-2Date Sampled:09/26/14Matrix:AQ - Ground WaterDate Received:09/29/14Percent Solids:n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	8.3	1.0	0.18	ug/l	2	09/30/14	10/01/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.098 B	1.0	0.035	ug/l	2	09/30/14	10/01/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	1.7 B	2.0	0.25	ug/l	2	09/30/14	10/01/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	12.6	2.0	0.048	ug/l	2	09/30/14	10/01/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	4.3	4.0	0.19	ug/l	2	09/30/14	10/01/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	19.7	4.0	3.3	ug/l	2	09/30/14	10/01/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17571

(2) Prep QC Batch: MP23669

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



### 4

# **Report of Analysis**

 Client Sample ID:
 AOC5-MW202

 Lab Sample ID:
 MC33943-3
 Date Sampled:
 09/26/14

 Matrix:
 AQ - Ground Water
 Date Received:
 09/29/14

 Method:
 MADEP EPH REV 1.1 SW846 3510C
 Percent Solids:
 n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

2.0 ml

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** 09/30/14 Run #1 DE6689.D 1 10/03/14 SZOP40018 **GDE454** Run #2

Initial Volume Final Volume

1000 ml

Run #1 Run #2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	4.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	4.0	ug/l	
120-12-7	Anthracene	ND	5.0	4.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	4.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	4.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	4.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	4.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	4.0	ug/l	
218-01-9	Chrysene	ND	5.0	4.0	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	5.0	4.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	4.0	ug/l	
86-73-7	Fluorene	ND	5.0	4.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	4.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	4.0	ug/l	
91-20-3	Naphthalene	ND	5.0	4.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	4.0	ug/l	
129-00-0	Pyrene	ND	5.0	4.0	ug/l	
	C11-C22 Aromatics (Unadj.)	ND	100	100	ug/l	
	C9-C18 Aliphatics	ND	100	100	ug/l	
	C19-C36 Aliphatics	ND	100	100	ug/l	
	C11-C22 Aromatics	ND	100	100	ug/l	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Lim	its	
84-15-1	o-Terphenyl	106%	06%		40%	
321-60-8	2-Fluorobiphenyl	92%	40-140%			
3386-33-2	1-Chlorooctadecane	51%		40-1	40%	
580-13-2	2-Bromonaphthalene	89%		40-1	40%	

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound





Misc. Forms

**Custody Documents and Other Forms** 

Includes the following where applicable:

- · Chain of Custody
- RCP Form
- Sample Tracking Chronicle



A	C	C	L	T	E	8	Te
			LA	8 0	RAT	OR	1 E S

### CHAIN OF CUSTODY

PAGE \_\_\_OF \_\_ Accutest Laboratories of New England 495 Technology Center West, Building One TEL. 508-481-6200 FAX: 508-481-7753 FED-EX Tracking #

		W1		test.com	3-401-	7133				Accutes	l Quole #		Accu	Mist Job#	10339	943
Client / Reporting Information		Proj	ect Infor	mation							Req	uested Analysis	(see TEST			Matrix Codes
Company Name	Project Name							***************************************	***********				18	TT		
Company Name  CR j Front JRAMMAN TAI  Street Address  Lynk ST  City State  Dynotal M 0302/  Project Contact  Mynwo CADARATS  Phone #  Danger(s) Name(s)  Phone #  Danger Mynotal  Danger Mynotal  Phone #  Danger Mynotal  Dan	NRG Street:	MONTE	- Wie	14			(2001)	200000000000000000000000000000000000000				0/0	College			DW - Drinking Water GW - Ground Water WW - Water
City State Zip	City:	THE TON	Compar Compar	ling Inform ny Name	ation (	If differ	ent f	om Re	oort to)	-	35	100	20 1			SW - Surface Water SO - Soil SL- Sludge
Project Contact E-mail	Project#	na C	Street A	ddress						+ !	00	20	38			SED-Sediment OJ - Oil LiQ - Other Liquid
Phone# CADARAGE Fax#	100964 Client PO#	N26	City			State			Zip	_	1 4	12	20			AIR - Air SOL - Other Solid WP - Wipe
6/7-589-6/02 Sample(s) Name(s) Phone #	89,7218	palcine	Attention				PO#			- 1	818	1, 12	13			FB-Field Blank EB- Equipment Blank
DAN 49114 617-212-8276	MORE	w Winzer	2								A C	87	100			RB- Rinse Blank TB-Trip Blank
		Colfection		-	L	Numb	er of p	reserved 8			1	172	1 24			
Accutosi Sample Field ID / Point of Collection	MEOH/DI Vial #	Date Time	Sampled by	Matrix # of	oottles 🖁	NaOH HNO3	H2SO4	NONE Di Water	MEOH ENCORE Bisulfale		V)	6.0	N			LAB USE ONLY
-1 are-mus		26/14 0815			1	1	Ш				ſ					
-2 ARG-MWS	94	26/14/0950	DL	GW -	3 2	2 1	Ш						2			
-3 AOC5-MW202	9/	2414 1115	DC 0	300 3	2	4	Ш						2			
					-	+	H	+	+							17A>
																60,
						+		+	+	H					++	
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						П	$\Box$	77	$\top$							
		<u> </u>			Data De	liverab	le inf	o)matic	n	أللطأ			Comments	Special I	nstructions	
Turnaround Time ( Business days)  GStd. 10 Business Days  Std. 5 Business Days (By Contract only)	Approved By (Accutest PM	M): / Date: 	<del>                                    </del>	emmercial "A emmercial "E ILLT1 ( Leve	3" ( Leve		Ē	NYA	SP Categ SP Categ e Forms	gory B						12, (in, n)
5 Day RUSH			ZZ CT		,		E	EDE EDE	Format	61sk	1	515	saci,	KIQ	QAD.	P STADA MENT CTGA VIA CUN
3 Day EMERGENCY		_	☐ MA				Ē	Oth	er			カラクシング	Bus	1115	14055	MARIE CIGA
☐ 2 Day EMERGENCY ☐ 1 Day EMERGENCY						'A" ≃ Res 'B" = Res	ults O ults 4	nly OC Sum	marv		ŀ	NRI-N	w5	7/	CEI JAN	117 8-280
Emergency & Rush T/A data available V/A Lablink							-SHO T	40 Odni						i KO	R NRG	-MUS only
Retinquished by Sampler, J Date Time:	Sample C	ustody must be docum	ented belo	ow each tin	ne sam	ples cha	ange	posses	sion, inc	cluding (	courie	delivery.	Per de	and Day Co		
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Relinquished by Sampler: Date Time: Date Time: Date Time:	3 30 Receiv	Valleris S	er_		Rei 4	linquished	By:					Date Time:	Recei	red By:		
Relinquished by: Date Time: 5	Receive 5	red By:			Cut	stody Sea	1#			Intact Not intact	1	reserved where applic	able		On Ice Co	ooler Yemp. 1. 4°C

MC33943: Chain of Custody Page 1 of 2







### **Accutest Laboratories Sample Receipt Summary**

Accutest Job Number: MCC	33943	Clie	nt: CBI		Project: NRG			
Date / Time Received: 9/29	1/2014 1:3	0:00 PM	Delivery	Method:	Airbill #'s:			
Cooler Temps (Initial/Adjuste	∍d): <u>#1:</u> (	(1.4/1.4);						
Cooler Security Y	or N			Y or N	Sample Integrity - Documentation	<u>Y</u>	or N	
Custody Seals Present:			Present:		Sample labels present on bottles:	✓		
2. Custody Seals Intact:		4. Smpl D	ates/Time OK		2. Container labeling complete:	$\checkmark$		
Cooler Temperature	Y or	r N_			3. Sample container label / COC agree:	<b>✓</b>		
1. Temp criteria achieved:	<b>✓</b>				Sample Integrity - Condition	<u>Y</u>	or N	
2. Thermometer ID:		i1;	_		Sample recvd within HT:	$\checkmark$		
3. Cooler media:		(Bag)	_		All containers accounted for:	<b>✓</b>		
4. No. Coolers:		1			3. Condition of sample:		Intact	
Quality Control Preservation	<u>1 Y 0</u>	or N N	<u>/A</u>		Sample Integrity - Instructions	Υ	or N	N/A
Trip Blank present / cooler:		_			Analysis requested is clear:	<b>✓</b>		
2. Trip Blank listed on COC:					2. Bottles received for unspecified tests		$\checkmark$	
3. Samples preserved properly:	$\checkmark$				3. Sufficient volume recvd for analysis:	<b>✓</b>		
4. VOCs headspace free:					4. Compositing instructions clear:			<b>✓</b>
					5. Filtering instructions clear:			✓
Comments					•			
Accutest Laboratories V:(508) 481-6200					gy Center West, Bidg One 508) 481-7753			orough, MA 01752 accutest.com

MC33943: Chain of Custody Page 2 of 2



# N

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### Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form

Laboratory Name: Accutest New England Client: Shaw Environmental & Infrastructure

Project Location: NRG Montville Lathrop Rd. Uncasville, CT Project Number: 1009644010. PO#

Sampling Date(s): 9/26/2014

Laboratory Sample ID(s): MC33943-1, MC33943-2, MC33943-3

Methods: MADEP EPH REV 1.1. SW846 6010C. SW846 6020A

Methods:	MADEP EPH REV 1.1, SW846 6010C, SW846 6020A		
1	For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-specific Reasonable Confidence Protocol documents)?	Yes 🔽	No 🗖
1A	Where all the method specified preservation and holding time requirements met?	Yes 🔽	No 🗖
1B	VPH and EPH mehods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods)	Yes 🔽	No 🗖
2	Were all samples received by the laboratory in a condition consistent with that described on the associated chain-of-custody document(s)?	Yes 🔽	No 🗖
3	Were samples received at an appropriate temperature (<6° C)?	Yes 🗹	No 🗖
4	Were all QA/QC performance criteria specified in the CTDEP Reasonable Confidence Protocol documents achieved?	Yes 🗖	No 🔽
5	a) Were reporting limits specified or referenced on the chain-of-custody?	Yes 🗹	No 🗖
	b) Were these reporting limits met?	Yes 🗀	No 🔽
6	For each analytical method referenced in this laboratory report package, were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents?	Yes 🗖	No 🔽
7	Are project-specific matrix spikes and laboratory duplicates included in this data set?	Yes 🔲	No 🔽

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized

Signature: Position: Lab Director

Printed Name: Reza Tand Date: 10/9/2014

Accutest New England



# **Internal Sample Tracking Chronicle**

Shaw Environmental & Infrastructure

Job No:

MC33943

NRG Montville Lathrop Rd. Uncasville, CT Project No: 1009644010 PO# 892218

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
MC33943-1 NRG-MW3	Collected: 26-SEP-14 (	08:15 By: DL	Receiv	ved: 29-SEP-	14 By:	NT
MC33943-1	SW846 6010C	07-OCT-14 14:14	EAL	03-OCT-14	KR	AS,BE,CU,NI,V,ZN
MC33943-2 NRG-MW5	Collected: 26-SEP-14 (	09:50 By: DL	Receiv	ved: 29-SEP-	14 By:	NT
MC33943-2	2 SW846 6020A	01-OCT-14 23:35	SA	30-SEP-14	KR	ASMS, BEMS, CUMS, NIMS, VI ZNMS
MC33943-3 AOC5-MW	3 Collected: 26-SEP-14 1 202	11:15 By: DL	Receiv	ved: 29-SEP-	14 By:	NT
MC33943-3	B MADEP EPH REV 1.1	1 03-OCT-14 12:53	SZ	30-SEP-14	PA	ВМАЕРН

D 1 (1



# GC Semi-volatiles

# QC Data Summaries

# Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

Method: MADEP EPH REV 1.1

# **Method Blank Summary**

**Job Number:** MC33943

Account: FDG Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

Sample OP40018-MB	File ID DE6686.D	<b>DF</b> 1	<b>Analyzed</b> 10/03/14	By SZ	<b>Prep Date</b> 09/30/14	Prep Batch OP40018	Analytical Batch GDE454

### The QC reported here applies to the following samples:

MC33943-3

CAS No.	Compound	Result	RL	MDL	Units Q
83-32-9	Acenaphthene	ND	5.0	4.0	ug/l
208-96-8	Acenaphthylene	ND	5.0	4.0	ug/l
120-12-7	Anthracene	ND	5.0	4.0	ug/l
56-55-3	Benzo(a)anthracene	ND	5.0	4.0	ug/l
50-32-8	Benzo(a)pyrene	ND	5.0	4.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	5.0	4.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	5.0	4.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	5.0	4.0	ug/l
218-01-9	Chrysene	ND	5.0	4.0	ug/l
53-70-3	Dibenz(a,h)anthracene	ND	5.0	4.0	ug/l
206-44-0	Fluoranthene	ND	5.0	4.0	ug/l
86-73-7	Fluorene	ND	5.0	4.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	4.0	ug/l
91-57-6	2-Methylnaphthalene	ND	5.0	4.0	ug/l
91-20-3	Naphthalene	ND	5.0	4.0	ug/l
85-01-8	Phenanthrene	ND	5.0	4.0	ug/l
129-00-0	Pyrene	ND	5.0	4.0	ug/l
	C11-C22 Aromatics (Unadj.)	ND	100	100	ug/l
	C9-C18 Aliphatics	ND	100	100	ug/l
	C19-C36 Aliphatics	ND	100	100	ug/l
	C11-C22 Aromatics	ND	100	100	ug/l

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	112%	40-140%
321-60-8	2-Fluorobiphenyl	86%	40-140%
3386-33-2	1-Chlorooctadecane	86%	40-140%
580-13-2	2-Bromonaphthalene	87%	40-140%



Method: MADEP EPH REV 1.1

# Blank Spike/Blank Spike Duplicate Summary

Job Number: MC33943

Account: FDG Shaw Environmental & Infrastructure **Project:** NRG Montville Lathrop Rd. Uncasville, CT

Sample	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
OP40018-BS	DE6687.D	1	10/03/14	SZ	09/30/14	OP40018	GDE454
OP40018-BSD	DE6688.D	1	10/03/14	SZ	09/30/14	OP40018	GDE454

The QC reported here applies to the following samples:

MC33943-3

		Spike	BSP	BSP	BSD	BSD		Limits
CAS No.	Compound	ug/l	ug/l	<b>%</b>	ug/l	%	RPD	Rec/RPD
83-32-9	Acenaphthene	50	35.5	71	41.6	83	16	40-140/25
208-96-8	Acenaphthylene	50	32.6	65	38.5	77	17	40-140/25
120-12-7	Anthracene	50	41.7	83	43.8	88	5	40-140/25
56-55-3	Benzo(a)anthracene	50	44.6	89	46.7	93	5	40-140/25
50-32-8	Benzo(a)pyrene	50	40.2	80	41.9	84	4	40-140/25
205-99-2	Benzo(b)fluoranthene	50	43.3	87	46.2	92	6	40-140/25
191-24-2	Benzo(g,h,i)perylene	50	45.5	91	47.4	95	4	40-140/25
207-08-9	Benzo(k)fluoranthene	50	48.0	96	48.2	96	0	40-140/25
218-01-9	Chrysene	50	46.8	94	48.7	97	4	40-140/25
53-70-3	Dibenz(a,h)anthracene	50	47.0	94	49.0	98	4	40-140/25
206-44-0	Fluoranthene	50	45.1	90	46.8	94	4	40-140/25
86-73-7	Fluorene	50	35.0	70	39.9	80	13	40-140/25
193-39-5	Indeno(1,2,3-cd)pyrene	50	42.5	85	44.8	90	5	40-140/25
91-57-6	2-Methylnaphthalene	50	31.2	62	36.6	73	16	40-140/25
91-20-3	Naphthalene	50	29.5	59	34.3	69	15	40-140/25
85-01-8	Phenanthrene	50	39.1	78	41.5	83	6	40-140/25
129-00-0	Pyrene	50	44.9	90	45.9	92	2	40-140/25
	C11-C22 Aromatics (Unadj.)	800	740	93	802	100	8	40-140/25
	C9-C18 Aliphatics	300	173	58	195	65	12	40-140/25
	C19-C36 Aliphatics	400	330	83	349	87	6	40-140/25

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
84-15-1	o-Terphenyl	115%	117%	40-140%
321-60-8	2-Fluorobiphenyl	94%	95%	40-140%
3386-33-2	1-Chlorooctadecane	80%	79%	40-140%
580-13-2	2-Bromonaphthalene	85%	87%	40-140%
Sample	Compound	Col #1	Col #2	Breakthrough Limit
Sample OP40018-E	•	Col #1 31.2	Col #2 0.075	Breakthrough Limit 0.2% 5.0
•	3S 2-Methylnaphthalene			C
OP40018-E	3S 2-Methylnaphthalene 3S Naphthalene	31.2	0.075	0.2% 5.0
OP40018-E	3S 2-Methylnaphthalene 3S Naphthalene 3SD 2-Methylnaphthalene	31.2 29.5	0.075 0.45	0.2% 5.0 1.5% 5.0

<sup>\* =</sup> Outside of Control Limits.



# Semivolatile Surrogate Recovery Summary

**Job Number:** MC33943

Account: FDG Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

Method: MADEP EPH REV 1.1 Matrix: AQ

### Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	<b>S1</b> <sup>a</sup>	<b>S2</b> a	<b>S3</b> b	<b>S4</b> <sup>a</sup>
MC33943-3	DE6689.D	106	92	51	89
OP40018-BS	DE6687.D	115	94	80	85
OP40018-BSD	DE6688.D	117	95	79	87
OP40018-MB	DE6686.D	112	86	86	87

# Surrogate Recovery Compounds Limits

 S1 = o-Terphenyl
 40-140%

 S2 = 2-Fluorobiphenyl
 40-140%

 S3 = 1-Chlorooctadecane
 40-140%

 S4 = 2-Bromonaphthalene
 40-140%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2





# Metals Analysis

# QC Data Summaries

## Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

### Login Number: MC33943

Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

QC Batch ID: MP23669 Matrix Type: AQUEOUS Methods: SW846 6020A

Units: ug/l

Prep Date:

09/30/14 MB Metal RT. TDT MDT raw final 2.5 Aluminum 50 .56 Antimony 1.0 .017 .11 Arsenic 0.55 1.0 .044 .18 <1.0 Barium 2.0 .022 .095 Beryllium 1.0 .0063 .035 0.0040 <1.0 10 Boron .14 1.9 Cadmium 1.0 .0074 .037 Calcium 500 10 Chromium 2.0 .021 1 Cobalt 1.0 .0045 .013 Copper 2.0 .026 .25 -0.25 <2.0 50 .42 5.9 Iron 1.0 .031 .043 Lead Magnesium 500 .33 2.8 Manganese 2.0 .046 .28 Molybdenum 2.0 .02 .07 Nickel 2.0 .033 .048 -0.051 <2.0 Potassium 500 36 4.3 .041 Selenium 1.0 . 2 Silver 1.0 .004 .021 Sodium 500 1.3 11 Strontium 10 .015 .037 Thallium 1.0 .027 .078 Tin 10 .017 .23

Associated samples MP23669: MC33943-2

2.0

4.0

4.0

Titanium

Vanadium

Zinc

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

.31

.05

.13

.52

.19

3.3

2.5

0.86

<4.0

<4.0



#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC33943 Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

QC Batch ID: MP23669 Methods: SW846 6020A Matrix Type: AQUEOUS Units:  $\mbox{ug/l}$ 

Prep Date: 09/30/14 09/30/14

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum	anr								
Antimony	anr								
Arsenic	500	500	100.0	80-120	498	500	99.6	0.4	
Barium									
Beryllium	486	500	97.2	80-120	479	500	95.8	1.5	
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt									
Copper	468	500	93.6	80-120	466	500	93.2	0.4	
Iron	anr								
Lead	anr								
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	481	500	96.2	80-120	481	500	96.2	0.0	
Potassium									
Selenium	anr								
Silver	anr								
Sodium									
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	490	500	98.0	80-120	490	500	98.0	0.0	
Zinc	489	500	97.8	80-120	490	500	98.0	0.2	

Associated samples MP23669: MC33943-2

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

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#### SERIAL DILUTION RESULTS SUMMARY

#### Login Number: MC33943 Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

QC Batch ID: MP23669 Methods: SW846 6020A Matrix Type: AQUEOUS Units:  $\mbox{ug/l}$ 

Prep Date: 09/30/14

		09/30/14	
		%DIF	QC Limits
anr			
anr			
1.39	1.46	4.7	0-10
0.0631	0.188	198.5(a)	0-10
anr			
anr			
anr			
0.139	0.00	100.0(a)	0-10
anr			
2.55	2.46	3.4	0-10
anr			
anr			
anr			
2.80	5.05	80.2 (b)	0-10
9.26	11.7	25.9 (b)	0-10
	original anr anr 1.39 0.0631 anr anr anr 2.55 anr anr anr	anr anr 1.39 1.46  0.0631 0.188  anr anr  0.139 0.00 anr	MC33894-3F Original SDL 2:10 %DIF  anr anr 1.39    1.46    4.7  0.0631    0.188    198.5(a)  anr anr anr anr 2.55    2.46    3.4  anr anr anr anr anr anr anr anr anr an

Associated samples MP23669: MC33943-2

Results < IDL are shown as zero for calculation purposes

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample  $\,$  concentration (< 50 times IDL).

(b) Serial Dilution RPD acceptable due to low duplicate and sample concentrations.

\_\_\_\_\_



<sup>(\*)</sup> Outside of QC limits

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

### Login Number: MC33943

Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

QC Batch ID: MP23691 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/l

Prep Date:					10/03/14		10/03/14	ı	10/03/14
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final
Aluminum	200	7.5	13						
Antimony	6.0	.94	2.4						
Arsenic	4.0	.64	2.4	0.40	<4.0	-0.50	<4.0	-0.60	<4.0
Barium	50	.17	2						
Beryllium	4.0	.04	.18	0.0	<4.0	0.0	<4.0	0.0	<4.0
Bismuth	50	1	3						
Boron	100	1.1	3.4						
Cadmium	4.0	.16	.24						
Calcium	5000	3.8	21						
Chromium	10	.43	.73						
Cobalt	50	.19	.6						
Copper	25	.44	3.6	0.10	<25	-0.10	<25	-0.20	<25
Gold	50	.67	1.4						
Iron	100	1.9	7.4						
Lead	5.0	.83	1.9						
Lithium	500	1.5	45						
Magnesium	5000	27	74						
Manganese	15	.04	.35						
Molybdenum	100	1.6	.81						
Nickel	40	.23	.57	-0.10	<40	-0.10	<40	0.0	<40
Palladium	50	.98	6.5						
Platinum	50	2.3	5.1						
Potassium	5000	28	69						
Selenium	10	1.8	2.7						
Silicon	100	5.9	21						
Silver	5.0	.5	.96						
Sodium	5000	6.5	22						
Sulfur	50	2	9.7						
Strontium	10	.079	.18						
Thallium	5.0	1.3	1.5						
Tin	100	.74	3.3						
Titanium	50	. 25	.89						
Tungsten	100	2.6	5.2						

#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

#### Login Number: MC33943

Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

QC Batch ID: MP23691 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/l

Prep Date:					10/03/1	10/03/14		10/03/14		
Metal	RL	IDL	MDL	MB raw	final	MB raw	final	MB raw	final	
Vanadium	10	.38	.72	0.0	<10	-0.10	<10	0.0	<10	
Zinc	20	. 24	4.2	2.8	<20	1.1	<20	1.4	<20	
Zirconium	50	.19	1.3							

Associated samples MP23691: MC33943-1

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

Page 2



#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

#### Login Number: MC33943 Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

QC Batch ID: MP23691 Methods: SW846 6010C Matrix Type: AQUEOUS Units:  $\mbox{ug/l}$ 

Prep Date: 10/03/14 10/03/14

M. J. 7	BSP	Spikelot		QC	BSD	Spikelot		BSD	QC
Metal	Result	MPICP	% Rec	Limits	Result	MPICP	% Rec	RPD	Limit
Aluminum									
Antimony									
	515	500	103.0	80-120	519	500	103.8	0.8	20
Barium	anr								
Beryllium	517	500	103.4	80-120	513	500	102.6	0.8	20
Bismuth									
Boron									
Cadmium	anr								
Calcium									
Chromium	anr								
Cobalt	400	500	07.0	00 100	400	500	00.0	0.0	0.0
Copper	489	500	97.8	80-120	490	500	98.0	0.2	20
Iron	anr								
Lead Lithium	anr								
Magnesium									
Manganese	anr								
Molybdenum	ani								
Nickel	511	500	102.2	80-120	509	500	101.8	0.4	20
Palladium	311	300	102.2	00 120	303	300	101.0	0.1	20
Platinum									
Potassium									
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium									
Tin									
Titanium									
Tungsten									

#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC33943 Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

QC Batch ID: MP23691 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/l

10/03/14 10/03/14 Prep Date:

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Vanadium	510	500	102.0	80-120	507	500	101.4	0.6	20
Zinc	517	500	103.4	80-120	518	500	103.6	0.2	20

Zirconium

Associated samples MP23691: MC33943-1

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

#### SERIAL DILUTION RESULTS SUMMARY

#### Login Number: MC33943 Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

QC Batch ID: MP23691 Methods: SW846 6010C Matrix Type: AQUEOUS Units:  $\mbox{ug/l}$ 

Prep Date: 10/03/14

Metal	MC33992 Origina	-3 1 SDL 1:5	%DIF	QC Limits		
Aluminum						
Antimony						
Arsenic	0.00	3.40	NC	0-10		
Barium	anr					
Beryllium	0.00	0.00	NC	0-10		
Bismuth						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	0.00	0.00	NC	0-10		
Gold						
Iron	anr					
Lead	anr					
Lithium						
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	73.4	75.5	2.9	0-10		
Palladium						
Platinum						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Sulfur						
Strontium						
Thallium						
Tin						
Titanium						
Tungsten						

#### SERIAL DILUTION RESULTS SUMMARY

Login Number: MC33943 Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Rd. Uncasville, CT

QC Batch ID: MP23691 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/l

10/03/14 Prep Date:

Metal	MC33992-3 Original SDL	:5 %DIF	QC Limits
Vanadium	0.800 0.00	100.0(a)	0-10
Zinc	8.70 12.6	44.8 (a)	0-10

Zirconium

Associated samples MP23691: MC33943-1

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits (anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample  $\,$  concentration (< 50 times IDL).

#### **Data Usability Worksheet**

Project Name:

NRG Montville

Job Number :

1009644010

Prepared By: Validated By:

Matrix:

Jennifer Galley Kim Napier

Date : Date:

1/5/2015

Analyte Group:

Groundwater

MADEP Metals

Analytical Method:

MADEP EPH

EPA 6010C EPA 6020A

Completed RCP Certification Form included: Yes

Laboratory ID No. :

MC35606

Chain of Custody included in Data Package ? Yes

Is it Complete ? Yes

Sample Collection Date	Analysis	Allowable Holding Time for extraction	Allowable Holding Time for analysis	Analysis Date
9/26/2014	6010C		180 Days	12/4, 12/5/2014
9/26/2014	6020A		180 Days	12/4, 12/5/2014
9/26/2014	MADER FRH	14 Days	40 Days	12/4 12/5/2014

Sample temperature within QC limits:

Yes, < 6.0° C

Surrogate Recovery

Are all % recoveries within the allowable range? Yes

If No, List sample ID where range was exceeded: N/A

MS/MSD

Are all MS/MSD sample recoveries within the QC limits ?

Yes

If No, list sample ID, date and compound where limit was exceeded:

NΑ

Laboratory Control Samples

Are all laboratory control sample recoveries within the QC limits?

NΑ

If no, list sample ID where range was exceeded:

N/A

Equipment Field Blank ID : Trip Blank ID :

E8-1 N/A

Method Blank:

6010 C

12/9/2014

6020A MADEP EPH

12/9/2014 12/17, 12/18/2014

Were any compounds identified in the method blank, field blank or trip blank above detection limits?

No

If so, list Sample ID/Compound/Concentration/Units: NA

EB-1 has ZN results of 18.4 ug/L. All samples with positive results for ZN where concentrations < 5X the blank amount (92 ug/L.) qualified U

Notes:

6010C

RPD(s) for Serial Dilution for Arsenic, Beryllium, Copper are outside control limits for sample MP24005-SD1. Percent

difference acceptable due to low initial sample concentration (< 50 times IDL). No qualification necessary

RPD(s) for MP24005-SD1 for Zinc: Serial dilution indicates possible matrix interference.

Zinc results qualified "J" for spiked sample NRG-MW7

RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP24006-SD1. Percent difference acceptable due to

low initial sample concentration (< 50 times IDL). No qualification necessary

Sample ID Corrections:

MC35606-3- AOC-SB4-MW2 should be AOC3-SB4-MW2. The lab is correcting this.

Results < RL; "U" flagged for organics and "B" flagged for inorganics should be considered as estimated and qualified "U" unless "U" qualified due to blank contamination. Reviewed By:

Client Sample ID: NRG-MW7 Lab Sample ID:

MC35606-2

Matrix:

AQ - Ground Water

Date Sampled: 12/04/14 Date Received: 12/05/14

Percent Solids: n/a

Project:

NRG Montville Lathrop Rd. Uncasville, CT

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	16.7	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.18 U	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C 1	SW846 3010A <sup>2</sup>
Copper	3.6 U	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C 1	SW846 3010A <sup>2</sup>
Nickel	14.8 B	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C 1	SW846 3010A <sup>2</sup>
Vanadium	0.72 U	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C 1	SW846 3010A <sup>2</sup>
Zinc	115 J	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



Run #1

Initial Volume Final Volume

2.0 ml

990 ml

# Report of Analysis

Client Sample ID: Lab Sample ID: Matrix: Method:	MC35606-3 AQ - Ground Water MADEP EPH REV 1.1 SW846 3510C	Date Sampled: Date Received: Percent Solids:	12/05/14	
Project:	NRG Montville Lathrop Rd. Uncasville, CT			

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	BJ26043.D	1	12/18/14	AP	12/09/14	OP41178	GBJ990
					***************************************		

Run #2							,
CAS No.	Compound	Result	RL	MDL	Units	Q	
83-32-9	Acenaphthene	ND	5.1	2.0	ug/l		
208-96-8	Acenaphthylene	ND	5.1	2.0	ug/l		
120-12-7	Anthracene	ND	5.1	2.0	ug/l		
56-55-3	Benzo(a)anthracene	ND	5.1	2.0	ug/i		
50-32-8	Benzo(a)pyrene	ND	5.1	2.0	ug/l		
205-99-2	Benzo(b)fluoranthene	ND	5.1	2.0	ug/l		
191-24-2	Benzo(g,h,i)perylene	ND	5.1	2.0	ug/l		
207-08-9	Benzo(k)fluoranthene	ND	5.1	2.0	ug/l		
218-01-9	Chrysene	ND	5.1	2.0	ug/l		
53-70-3	Dibenz(a,h)anthracene	ND	5.1	2.0	ug/l		
206-44-0	Fluoranthene	ND	5.1	2.0	ug/l		
86-73-7	Fluorene	ND	5.1	2.0	ug/l		
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	2.0	ug/l		
91-57-6	2-Methylnaphthalene	ND	5.1	2.0	ug/i		_
91-20-3	Naphthalene	3.2	5.1	2.0	ug/I	J	J
85-01-8	Phenanthrene	ND	5.1	2.0	ug/l		
129-00-0	Pyrene	ND	5.1	2.0	ug/l		
	C11-C22 Aromatics (Unadj.)	136	100	71	ug/l		
	C9-C18 Aliphatics	ND	100	71	ug/l		
	C19-C36 Aliphatics	ND.	100	71	ug/l		
	C11-C22 Aromatics	130	100	71	ug/l		
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	,	
84-15-1	o-Terphenyl	79%	V# 8.0	40-1	140%		
321-60-8	2-Fluorobiphenyl	80%	14 14 20	40-	140%		
3386-33-2	1-Chlorooctadecane	49%	7.07 7.12 7.13 7.13	40-1	140%		
580-13-2	2-Bromonaphthalene	78%	1 % 1 % 1 % 1 % 1 % 1 % 1 % 1 % 1 % 1 %	40-	140%		

ND = Not detected	
-------------------	--

MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = Indicates \ analyte \ found \ in \ associated \ method \ blank$ 

N = Indicates presumptive evidence of a compound

Client Sample ID: AOC3-SB4-MW2

Lab Sample ID:

MC35606-3

AQ - Ground Water

Date Sampled: 12/04/14

Percent Solids: n/a

Date Received: 12/05/14

Project:

Matrix:

NRG Montville Lathrop Rd. Uncasville, CT

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.9 B J	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.18 U	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	3.6 U		3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	0.57 U	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C 1	SW846 3010A <sup>2</sup>
Vanadium	0.72 U	10	0.72	ug/i	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	13.1 B U	<b>]</b> 20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



Client Sample ID: MW-11

Lab Sample ID: MC35606-4

Matrix:

AQ - Ground Water

Date Sampled: 12/04/14
Date Received: 12/05/14

Percent Solids: n/a

Project:

NRG Montville Lathrop Rd. Uncasville, CT

### Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U		2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.40 B	<b>ĵ</b> 4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	3.6 U	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	29,7 B J	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	1.4 B J	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	20.9 LL	. 20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005



Client Sample ID: AOC12-MW306

Lab Sample ID:

MC35606-5

AQ - Ground Water

Date Sampled: 12/04/14

Percent Solids: n/a

Date Received: 12/05/14

Project:

Matrix:

NRG Montville Lathrop Rd. Uncasville, CT

**Total Metals Analysis** 

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic Beryllium Copper Nickel Vanadium Zinc	59.9 0.70 B 了 3.6 U 39.2 B <b>〔</b> 53.3 89.1  从	4.0 25 40 10	2.4 0.18 3.6 0.57 0.72 4.2	ug/l ug/l ug/l ug/l ug/l ug/l	1 1 1 1 1	12/09/14 12/09/14 12/09/14	12/10/14 EAL 12/10/14 EAL	SW846 6010C <sup>1</sup> SW846 6010C <sup>1</sup> SW846 6010C <sup>1</sup> SW846 6010C <sup>1</sup> SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup> SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit

MDL = Method Detection Limit

U = Indicates a result < MDL

B = Indicates a result >= MDL but < RL



Client Sample ID: AOC12-MW301

Lab Sample ID: Matrix:

MC35606-6

AQ - Ground Water

Date Sampled: 12/04/14

Date Received: 12/05/14

Percent Solids: n/a

Project:

NRG Montville Lathrop Rd. Uncasville, CT

### Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.4 B	<b>5</b> 4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	1.2 B	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C 1	SW846 3010A <sup>2</sup>
Copper	4.7 B	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	21.1 B	, 40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C 1	SW846 3010A <sup>2</sup>
Vanadium	4.3 B	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	30.5 J	20	4.2	ug/i	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

Client Sample ID: AOC3-SB1-MW1 DUP

Lab Sample ID:

MC35606-8

Matrix:

AQ - Ground Water

Date Sampled: 12/04/14

Date Received: 12/05/14

Percent Solids: n/a

Project:

NRG Montville Lathrop Rd. Uncasville, CT

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	12.0	4.0	2.4	ug/i	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	3.3 B	4.0	0.18	ug/i	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	10.8 B	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	93.9	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	16.9	<b>10</b>	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	167	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C 1	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit MDL = Method Detection Limit -

U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



Client Sample ID: AOC12-MW305

Lab Sample ID:

MC35606-9

Matrix:

AQ - Ground Water

Date Sampled: 12/05/14

Date Received: 12/05/14

Project:

NRG Montville Lathrop Rd. Uncasville, CT

Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	30.5		2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	1.2 B J	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	33.4	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	27.0 B J		0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0,90 B 🗗	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	81.7 U	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



# Report of Analysis

Client Sample ID: NRG-MW5

Lab Sample ID: Matrix:

MC35606-10

AQ - Ground Water

Date Sampled: 12/05/14

Date Received: 12/05/14 Percent Solids: n/a

Project:

NRG Montville Lathrop Rd. Uncasville, CT

### Total Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	9,4	1.0	0.18	ug/l	2	12/09/14	12/12/14 SA	SW846 6020A <sup>2</sup>	SW846 3010A <sup>4</sup>
Beryllium	0.055 B	<b>f</b> 1.0	0.035	ug/l	2	12/09/14	12/12/14 SA	SW846 6020A <sup>2</sup>	SW846 3010A <sup>4</sup>
Copper	0.61 B =	7 2.0	0.25	ug/l	2	12/09/14	12/10/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>4</sup>
Nickel	10.3	2.0	0.048	ug/l	2	12/09/14	12/10/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>4</sup>
Vanadium	4.8	4.0	0.19	ug/l	2	12/12/14	12/16/14 SA	SW846 6020A <sup>3</sup>	SW846 3010A <sup>5</sup>
Zinc	15.6 U	4.0	3.3	ug/i	2	12/12/14	12/16/14 SA	SW846 6020A <sup>3</sup>	SW846 3010A <sup>5</sup>

(1) Instrument QC Batch: MA17759 (2) Instrument QC Batch: MA17765 (3) Instrument QC Batch: MA17775

(4) Prep QC Batch: MP24006 (5) Prep QC Batch: MP24023





### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:

Shaw Environmental & Infrastructure

Job No

MC35606

Site:

NRG Montville Lathrop Rd. Uncasville, CT

Report Date

12/19/2014 12:09:34 PM

11 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on between 12/04/2014 and 12/05/2014 and were received at Accutest on 12/05/2014 properly preserved, at 1.1 Deg. C and intact. These Samples received an Accutest job number of MC35606. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

### Extractables by GC By Method MADEP EPH REV 1.1

Matrix: AQ

Batch ID: OP41167

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ

Batch ID: OP41178

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

### Metals By Method SW846 6010C

Matrix: AQ

Batch ID: MP24005

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC35606-2MS, MC35606-2MSD, MC35606-2SDL were used as the QC samples for metals.
- Only selected metals requested.
- RPD(s) for Scrial Dilution for Arsenic, Beryllium, Copper are outside control limits for sample MP24005-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- RPD(s) for MP24005-SD1 for Zinc; Serial dilution indicates possible matrix interference.

J NRG-MW7

### Metals By Method SW846 6020A

Matrix: AQ

Batch ID: MP24006

- All samples were digested within the recommended method holding time.
- MI samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC35614-4SDL were used as the QC samples for metals.
- <sup>15</sup> Only selected metals requested.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP24006-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Matrix: AQ

Batch ID: MP24023

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC35733-1SDL were used as the QC samples for metals.
- Only selected metals requested.

Batch De

Batch QC NO O

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignce as verified by the signature on the cover page has authorized the release of this report (MC35606).



01/05/15



# Technical Report for

Shaw Environmental & Infrastructure

NRG Montville Lathrop Rd. Uncasville, CT

1009644010.02 PO#

Accutest Job Number: MC35606

Sampling Dates: 12/04/14 - 12/05/14

### Report to:

Shaw Environmental Virginia Beach, VA

Catherine.Joe@cbi.com

ATTN: Catherine Joe

Total number of pages in report: 29



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

1 of 29
ACCUTEST
MC35606
LABORATORIE

Lab Director

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# **Sample Summary**

Job No:

MC35606

Shaw Environmental & Infrastructure

NRG Montville Lathrop Rd. Uncasville, CT Project No: 1009644010.02 PO#

Sample	•		Matrix			Client
Number	Date	Time By	Received	Code	Type	Sample ID
MC35606-1	12/04/14	07:45 DL	12/05/14	AQ	Equipment Blank	EB-1
MC35606-2	12/04/14	08:40 DL	12/05/14	AQ	Ground Water	NRG-MW7
MC35606-3	12/04/14	09:45 DL	12/05/14	AQ	Ground Water	AOC3-SB4-MW2
MC35606-4	12/04/14	10:40 DL	12/05/14	AQ	Ground Water	MW-11
MC35606-5	12/04/14	11:40 DL	12/05/14	AQ	Ground Water	AOC12-MW306
MC35606-6	12/04/14	12:50 DL	12/05/14	AQ	Ground Water	AOC12-MW301
MC35606-7	12/04/14	14:10 DL	12/05/14	AQ	Ground Water	AOC3-SB1-MW1
MC35606-8	12/04/14	14:10 DL	12/05/14	AQ	Ground Water	AOC3-SB1-MW1 DUP
MC35606-9	12/05/14	08:45 DL	12/05/14	AQ	Ground Water	AOC12-MW305
MC35606-10	12/05/14	10:25 DL	12/05/14	AQ	Ground Water	NRG-MW5
MC35606-11	12/05/14	10:25 DL	12/05/14	AQ	Ground Water	NRG-MW5 DUP





#### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Shaw Environmental & Infrastructure Job No MC35606

Site: NRG Montville Lathrop Rd. Uncasville, CT Report Date 12/19/2014 12:09:34 PM

11 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on between 12/04/2014 and 12/05/2014 and were received at Accutest on 12/05/2014 properly preserved, at 1.1 Deg. C and intact. These Samples received an Accutest job number of MC35606. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

#### Extractables by GC By Method MADEP EPH REV 1.1

Matrix: AQ Batch ID: OP41167

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ Batch ID: OP41178

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

#### Metals By Method SW846 6010C

Matrix: AQ Batch ID: MP24005

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC35606-2MS, MC35606-2MSD, MC35606-2SDL were used as the QC samples for metals.
- Only selected metals requested.
- RPD(s) for Serial Dilution for Arsenic, Beryllium, Copper are outside control limits for sample MP24005-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- RPD(s) for MP24005-SD1 for Zinc: Serial dilution indicates possible matrix interference.

#### Metals By Method SW846 6020A

Matrix: AQ Batch ID: MP24006

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC35614-4SDL were used as the QC samples for metals.
- Only selected metals requested.
- RPD(s) for Serial Dilution for Arsenic are outside control limits for sample MP24006-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</p>

Matrix: AQ Batch ID: MP24023

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC35733-1SDL were used as the QC samples for metals.
- Only selected metals requested.

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report (MC35606).

**Summary of Hits Job Number:** MC35606

Account: Shaw Environmental & Infrastructure NRG Montville Lathrop Rd. Uncasville, CT 12/04/14 thru 12/05/14**Project:** 

Collected:

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
MC35606-1	EB-1					
Zinc		18.4 B	20	4.2	ug/l	SW846 6010C
MC35606-2	NRG-MW7					
Arsenic Nickel Zinc		16.7 14.8 B 115	4.0 40 20	2.4 0.57 4.2	ug/l ug/l ug/l	SW846 6010C SW846 6010C SW846 6010C
MC35606-3	AOC3-SB4-MW2					
Naphthalene C11-C22 Aroma C11-C22 Aroma Arsenic Zinc		3.2 J 136 130 2.9 B 13.1 B	5.1 100 100 4.0 20	2.0 71 71 2.4 4.2	ug/l ug/l ug/l ug/l ug/l	MADEP EPH REV 1.1 MADEP EPH REV 1.1 MADEP EPH REV 1.1 SW846 6010C SW846 6010C
MC35606-4	MW-11					
Beryllium Nickel Vanadium Zinc		0.40 B 29.7 B 1.4 B 20.9	4.0 40 10 20	0.18 0.57 0.72 4.2	ug/l ug/l ug/l ug/l	SW846 6010C SW846 6010C SW846 6010C SW846 6010C
MC35606-5	AOC12-MW306					
Arsenic Beryllium Nickel Vanadium Zinc		59.9 0.70 B 39.2 B 53.3 89.1	4.0 4.0 40 10 20	2.4 0.18 0.57 0.72 4.2	ug/l ug/l ug/l ug/l ug/l	SW846 6010C SW846 6010C SW846 6010C SW846 6010C SW846 6010C
MC35606-6	AOC12-MW301					
Arsenic Beryllium Copper Nickel Vanadium Zinc		3.4 B 1.2 B 4.7 B 21.1 B 4.3 B 30.5	4.0 4.0 25 40 10 20	2.4 0.18 3.6 0.57 0.72 4.2	ug/l ug/l ug/l ug/l ug/l ug/l	SW846 6010C SW846 6010C SW846 6010C SW846 6010C SW846 6010C SW846 6010C
MC35606-7	AOC3-SB1-MW1					
Arsenic		11.1	4.0	2.4	ug/l	SW846 6010C



# **Summary of Hits Job Number:** MC35606

Account: Shaw Environmental & Infrastructure **Project:** NRG Montville Lathrop Rd. Uncasville, CT

12/04/14 thru 12/05/14 **Collected:** 

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Beryllium		5.1	4.0	0.18	ug/l	SW846 6010C
Copper		91.0	25	3.6	ug/l	SW846 6010C
Nickel		168	40	0.57	ug/l	SW846 6010C
Vanadium		23.2	10	0.72	ug/l	SW846 6010C
Zinc		267	20	4.2	ug/l	SW846 6010C
MC35606-8	AOC3-SB1-MW1	DUP				
Arsenic		12.0	4.0	2.4	ug/l	SW846 6010C
Beryllium		3.3 B	4.0	0.18	ug/l	SW846 6010C
Copper		10.8 B	25	3.6	ug/l	SW846 6010C
Nickel		93.9	40	0.57	ug/l	SW846 6010C
Vanadium		16.9	10	0.72	ug/l	SW846 6010C
Zinc		167	20	4.2	ug/l	SW846 6010C
MC35606-9	AOC12-MW305					
Arsenic		30.5	4.0	2.4	ug/l	SW846 6010C
Beryllium		1.2 B	4.0	0.18	ug/l	SW846 6010C
Copper		33.4	25	3.6	ug/l	SW846 6010C
Nickel		27.0 B	40	0.57	ug/l	SW846 6010C
Vanadium		0.90 B	10	0.72	ug/l	SW846 6010C
Zinc		81.7	20	4.2	ug/l	SW846 6010C
MC35606-10	NRG-MW5					
Arsenic		9.4	1.0	0.18	ug/l	SW846 6020A
Beryllium		0.055 B	1.0	0.035	ug/l	SW846 6020A
Copper		0.61 B	2.0	0.25	ug/l	SW846 6020A
Nickel		10.3	2.0	0.048	ug/l	SW846 6020A
Vanadium		4.8	4.0	0.19	ug/l	SW846 6020A
Zinc		15.6	4.0	3.3	ug/l	SW846 6020A

#### MC35606-11 NRG-MW5 DUP

No hits reported in this sample.





Sample Results	
Report of Analysis	



### **Report of Analysis**

Client Sample ID: EB-1

Lab Sample ID:MC35606-1Date Sampled:12/04/14Matrix:AQ - Equipment BlankDate Received:12/05/14Method:MADEP EPH REV 1.1 SW846 3510CPercent Solids:n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BJ26008.D 1 12/17/14 AP 12/09/14 OP41167 GBJ989

Run #2

Initial Volume Final Volume
Run #1 1000 ml 2.0 ml

Run #2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	2.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	2.0	ug/l	
120-12-7	Anthracene	ND	5.0	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	2.0	ug/l	
218-01-9	Chrysene	ND	5.0	2.0	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	2.0	ug/l	
86-73-7	Fluorene	ND	5.0	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l	
129-00-0	Pyrene	ND	5.0	2.0	ug/l	
	C11-C22 Aromatics (Unadj.)	ND	100	70	ug/l	
	C9-C18 Aliphatics	ND	100	70	ug/l	
	C19-C36 Aliphatics	ND	100	70	ug/l	
	C11-C22 Aromatics	ND	100	70	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts	
84-15-1	o-Terphenyl	52%		40-14	10%	
321-60-8	2-Fluorobiphenyl	52%		40-14		
3386-33-2	1-Chlorooctadecane	48%		40-14		
580-13-2	2-Bromonaphthalene	52%		10%		
-	1					

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: EB-1

Lab Sample ID:MC35606-1Date Sampled:12/04/14Matrix:AQ - Equipment BlankDate Received:12/05/14Percent Solids:n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.18 U	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	3.6 U	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	0.57 U	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0.72 U	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	18.4 B	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit

MDL = Method Detection Limit

U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



**Date Sampled:** 12/04/14

**Date Received:** 12/05/14

Percent Solids: n/a

### **Report of Analysis**

Client Sample ID: NRG-MW7 Lab Sample ID: MC35606-2 Matrix: AQ - Ground Water

Method: MADEP EPH REV 1.1 SW846 3510C

NRG Montville Lathrop Rd. Uncasville, CT **Project:** 

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** 12/09/14 **GBJ989** Run #1 BJ26009.D 1 12/17/14 AP OP41167

Run #2

**Initial Volume Final Volume** Run #1 1000 ml 2.0 ml

Run #2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	2.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	2.0	ug/l	
120-12-7	Anthracene	ND	5.0	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	2.0	ug/l	
218-01-9	Chrysene	ND	5.0	2.0	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	2.0	ug/l	
86-73-7	Fluorene	ND	5.0	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l	
129-00-0	Pyrene	ND	5.0	2.0	ug/l	
	C11-C22 Aromatics (Unadj.)	ND	100	70	ug/l	
	C9-C18 Aliphatics	ND	100	70	ug/l	
	C19-C36 Aliphatics	ND	100	70	ug/l	
	C11-C22 Aromatics	ND	100	70	ug/l	
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limi	ts	
84-15-1	o-Terphenyl	59%		40-14	0%	
321-60-8	2-Fluorobiphenyl	60%		40-14	0%	
3386-33-2	1-Chlorooctadecane	45%		40-14	0%	
580-13-2	2-Bromonaphthalene	59%		0%		

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: NRG-MW7

Lab Sample ID: MC35606-2 Date Sampled: 12/04/14

Matrix: AQ - Ground Water Date Received: 12/05/14

Percent Solids: n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	16.7	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.18 U	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	3.6 U	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	14.8 B	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0.72 U	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	115	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



### **Report of Analysis**

Client Sample ID: AOC3-SB4-MW2 Lab Sample ID: MC35606-3 **Date Sampled:** 12/04/14 Matrix: AQ - Ground Water **Date Received:** 12/05/14 Method: MADEP EPH REV 1.1 SW846 3510C Percent Solids: n/a

NRG Montville Lathrop Rd. Uncasville, CT **Project:** 

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** 12/09/14 GBJ990 Run #1 BJ26043.D 1 12/18/14 AP OP41178 Run #2

**Initial Volume Final Volume** Run #1 990 ml 2.0 ml Run #2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.1	2.0	ug/l	
208-96-8	Acenaphthylene	ND	5.1	2.0	ug/l	
120-12-7	Anthracene	ND	5.1	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	2.0	ug/l	
218-01-9	Chrysene	ND	5.1	2.0	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	5.1	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.1	2.0	ug/l	
86-73-7	Fluorene	ND	5.1	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.1	2.0	ug/l	
91-20-3	Naphthalene	3.2	5.1	2.0	ug/l	J
85-01-8	Phenanthrene	ND	5.1	2.0	ug/l	
129-00-0	Pyrene	ND	5.1	2.0	ug/l	
	C11-C22 Aromatics (Unadj.)	136	100	71	ug/l	
	C9-C18 Aliphatics	ND	100	71	ug/l	
	C19-C36 Aliphatics	ND	100	71	ug/l	
	C11-C22 Aromatics	130	100	71	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 2 Limits		
84-15-1	o-Terphenyl	79%		40-14	40%	
321-60-8	2-Fluorobiphenyl	80%		40-14	40%	
3386-33-2	1-Chlorooctadecane	49%	40-140%			
580-13-2	2-Bromonaphthalene	78%	40-140%			

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value

RL = Reporting Limit

E = Indicates value exceeds calibration range

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: AOC3-SB4-MW2 Lab Sample ID: MC35606-3

Lab Sample ID:MC35606-3Date Sampled:12/04/14Matrix:AQ - Ground WaterDate Received:12/05/14Percent Solids:n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.9 B	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.18 U	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	3.6 U	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	0.57 U	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0.72 U	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	13.1 B	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit

MDL = Method Detection Limit

U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



### 4

### **Report of Analysis**

Client Sample ID: MW-11
Lab Sample ID: MC35606-4
Matrix: AQ - Ground Water

Date Sampled: 12/04/14
Date Received: 12/05/14
Percent Solids: n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	2.4 U	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.40 B	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	3.6 U	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	29.7 B	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	1.4 B	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	20.9	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



### **Report of Analysis**

Client Sample ID: AOC12-MW306 Lab Sample ID: MC35606-5 **Date Sampled:** 12/04/14 Matrix: AQ - Ground Water **Date Received:** 12/05/14 Method: MADEP EPH REV 1.1 SW846 3510C Percent Solids: n/a

NRG Montville Lathrop Rd. Uncasville, CT **Project:** 

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** 12/09/14 **GBJ989** Run #1 BJ26010.D 1 12/17/14 AP OP41167 Run #2

**Initial Volume Final Volume** Run #1 1000 ml 2.0 ml Run #2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	2.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	2.0	ug/l	
120-12-7	Anthracene	ND	5.0	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	2.0	ug/l	
218-01-9	Chrysene	ND	5.0	2.0	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	2.0	ug/l	
86-73-7	Fluorene	ND	5.0	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l	
129-00-0	Pyrene	ND	5.0	2.0	ug/l	
	C11-C22 Aromatics (Unadj.)	ND	100	70	ug/l	
	C9-C18 Aliphatics	ND	100	70	ug/l	
	C19-C36 Aliphatics	ND	100	70	ug/l	
	C11-C22 Aromatics	ND	100	70	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	ts	
84-15-1	o-Terphenyl	52%		40-14	10%	
321-60-8	2-Fluorobiphenyl	51%		40-14	10%	
3386-33-2	1-Chlorooctadecane	41%	40-140%			
580-13-2	2-Bromonaphthalene	51%		10%		

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value

RL = Reporting Limit

E = Indicates value exceeds calibration range

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: AOC12-MW306

Lab Sample ID: MC35606-5

Matrix: AQ - Ground Water

Date Sampled: 12/04/14

Percent Solids: n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	59.9	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	0.70 B	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	3.6 U	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	39.2 B	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	53.3	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	89.1	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758(2) Prep QC Batch: MP24005

RL = Reporting Limit

U = Indicates a result < MDL B = Indicates a result > = MDL but < RL



### **Report of Analysis**

Client Sample ID: AOC12-MW301

Lab Sample ID: MC35606-6

Matrix: AQ - Ground Water

Date Sampled: 12/04/14

Percent Solids: n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	3.4 B	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	1.2 B	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	4.7 B	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	21.1 B	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	4.3 B	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	30.5	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758(2) Prep QC Batch: MP24005

RL = Reporting Limit

MDL = Method Detection Limit

U = Indicates a result < MDL

B = Indicates a result > = MDL but < RL



### **Report of Analysis**

Client Sample ID: AOC3-SB1-MW1 Lab Sample ID: MC35606-7

Lab Sample ID:MC35606-7Date Sampled:12/04/14Matrix:AQ - Ground WaterDate Received:12/05/14Percent Solids:n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	11.1	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	5.1	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	91.0	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	168	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	23.2	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	267	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit U = Indicates a result < MDL

MDL = Method Detection Limit B = Indicates a result > = MDL but < RL



### **Report of Analysis**

Client Sample ID: AOC3-SB1-MW1 DUP

Lab Sample ID:MC35606-8Date Sampled:12/04/14Matrix:AQ - Ground WaterDate Received:12/05/14Percent Solids:n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	12.0	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	3.3 B	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	10.8 B	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	93.9	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	16.9	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	167	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit U = Indicates a result < MDL

MDL = Method Detection Limit B = Indicates a result > = MDL but < RL



### **Report of Analysis**

Client Sample ID: AOC12-MW305 Lab Sample ID: MC35606-9 **Date Sampled:** 12/05/14 Matrix: AQ - Ground Water **Date Received:** 12/05/14 Method: MADEP EPH REV 1.1 SW846 3510C Percent Solids: n/a

NRG Montville Lathrop Rd. Uncasville, CT **Project:** 

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** 12/09/14 **GBJ989** Run #1 BJ26011.D 1 12/17/14 AP OP41167 Run #2

**Initial Volume Final Volume** Run #1 1000 ml 2.0 ml Run #2

CAS No.	Compound	Result	RL	MDL	Units	Q			
83-32-9	Acenaphthene	ND	5.0	2.0	ug/l				
208-96-8	Acenaphthylene	ND	5.0	2.0	ug/l				
120-12-7	Anthracene	ND	5.0	2.0	ug/l				
56-55-3	Benzo(a)anthracene	ND	5.0	2.0	ug/l				
50-32-8	Benzo(a)pyrene	ND	5.0	2.0	ug/l				
205-99-2	Benzo(b)fluoranthene	ND	5.0	2.0	ug/l				
191-24-2	Benzo(g,h,i)perylene	ND	5.0	2.0	ug/l				
207-08-9	Benzo(k)fluoranthene	ND	5.0	2.0	ug/l				
218-01-9	Chrysene	ND	5.0	2.0	ug/l				
53-70-3	Dibenz(a,h)anthracene	ND	5.0	2.0	ug/l				
206-44-0	Fluoranthene	ND	5.0	2.0	ug/l				
86-73-7	Fluorene	ND	5.0	2.0	ug/l				
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	2.0	ug/l				
91-57-6	2-Methylnaphthalene	ND	5.0	2.0	ug/l				
91-20-3	Naphthalene	ND	5.0	2.0	ug/l				
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l				
129-00-0	Pyrene	ND	5.0	2.0	ug/l				
	C11-C22 Aromatics (Unadj.)	ND	100	70	ug/l				
	C9-C18 Aliphatics	ND	100	70	ug/l				
	C19-C36 Aliphatics	ND	100	70	ug/l				
	C11-C22 Aromatics	ND	100	70	ug/l				
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Limi	ts				
84-15-1	o-Terphenyl	52%		40-14	40%				
321-60-8	2-Fluorobiphenyl	54%	40-140%						
3386-33-2	1-Chlorooctadecane	43%		40-14	40%				
580-13-2	2-Bromonaphthalene	53%	40-140%						

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value

RL = Reporting Limit

E = Indicates value exceeds calibration range

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: AOC12-MW305

Lab Sample ID: MC35606-9

Matrix: AQ - Ground Water

Date Sampled: 12/05/14

Percent Solids: n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	30.5	4.0	2.4	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	1.2 B	4.0	0.18	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	33.4	25	3.6	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	27.0 B	40	0.57	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	0.90 B	10	0.72	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	81.7	20	4.2	ug/l	1	12/09/14	12/10/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17758

(2) Prep QC Batch: MP24005

RL = Reporting Limit U = Indicates a result < MDL

MDL = Method Detection Limit B = Indicates a result > = MDL but < RL



### 1

### **Report of Analysis**

Client Sample ID: NRG-MW5

Lab Sample ID: MC35606-10 Date Sampled: 12/05/14

Matrix: AQ - Ground Water Date Received: 12/05/14

Method: MADEP EPH REV 1.1 SW846 3510C Percent Solids: n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** 12/09/14 **GBJ989** Run #1 BJ26012.D 1 12/17/14 AP OP41167 Run #2

Initial Volume Final Volume Run #1 1000 ml 2.0 ml

Run #2

CAS No.	Compound	Result	RL	MDL	Units	Q		
83-32-9	Acenaphthene	ND	5.0	2.0	ug/l			
208-96-8	Acenaphthylene	ND	5.0	2.0	ug/l			
120-12-7	Anthracene	ND	5.0	2.0	ug/l			
56-55-3	Benzo(a)anthracene	ND	5.0	2.0	ug/l			
50-32-8	Benzo(a)pyrene	ND	5.0	2.0	ug/l			
205-99-2	Benzo(b)fluoranthene	ND	5.0	2.0	ug/l			
191-24-2	Benzo(g,h,i)perylene	ND	5.0	2.0	ug/l			
207-08-9	Benzo(k)fluoranthene	ND	5.0	2.0	ug/l			
218-01-9	Chrysene	ND	5.0	2.0	ug/l			
53-70-3	Dibenz(a,h)anthracene	ND	5.0	2.0	ug/l			
206-44-0	Fluoranthene	ND	5.0	2.0	ug/l			
86-73-7	Fluorene	ND	5.0	2.0	ug/l			
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	2.0	ug/l			
91-57-6	2-Methylnaphthalene	ND	5.0	2.0	ug/l			
91-20-3	Naphthalene	ND	5.0	2.0	ug/l			
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l			
129-00-0	Pyrene	ND	5.0	2.0	ug/l			
	C11-C22 Aromatics (Unadj.)	ND	100	70	ug/l			
	C9-C18 Aliphatics	ND	100	70	ug/l			
	C19-C36 Aliphatics	ND	100	70	ug/l			
	C11-C22 Aromatics	ND	100	70	ug/l			
CAS No.	<b>Surrogate Recoveries</b>	Run# 1	Run# 2	Lim	its			
84-15-1	o-Terphenyl	48%		40-1	40%			
321-60-8	2-Fluorobiphenyl	48%	40-140%					
3386-33-2	1-Chlorooctadecane	41%		40-1	40%			
580-13-2	2-Bromonaphthalene	47%		40-1	40%			

ND = Not detected MDL = Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: NRG-MW5 Lab Sample ID: MC35606-10 **Date Sampled:** 12/05/14 Matrix: AQ - Ground Water **Date Received:** 12/05/14 Percent Solids: n/a

**Project:** NRG Montville Lathrop Rd. Uncasville, CT

#### **Total Metals Analysis**

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	9.4	1.0	0.18	ug/l	2	12/09/14	12/12/14 SA	SW846 6020A <sup>2</sup>	SW846 3010A <sup>4</sup>
Beryllium	0.055 B	1.0	0.035	ug/l	2	12/09/14	12/12/14 SA	SW846 6020A <sup>2</sup>	SW846 3010A <sup>4</sup>
Copper	0.61 B	2.0	0.25	ug/l	2	12/09/14	12/10/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>4</sup>
Nickel	10.3	2.0	0.048	ug/l	2	12/09/14	12/10/14 SA	SW846 6020A <sup>1</sup>	SW846 3010A <sup>4</sup>
Vanadium	4.8	4.0	0.19	ug/l	2	12/12/14	12/16/14 SA	SW846 6020A <sup>3</sup>	SW846 3010A <sup>5</sup>
Zinc	15.6	4.0	3.3	ug/l	2	12/12/14	12/16/14 SA	SW846 6020A <sup>3</sup>	SW846 3010A <sup>5</sup>

(1) Instrument QC Batch: MA17759 (2) Instrument QC Batch: MA17765 (3) Instrument QC Batch: MA17775 (4) Prep QC Batch: MP24006 (5) Prep QC Batch: MP24023

RL = Reporting Limit U = Indicates a result < MDL

MDL = Method Detection Limit B = Indicates a result > = MDL but < RL



Page 1 of 1

### **Report of Analysis**

Client Sample ID: NRG-MW5 DUP Lab Sample ID: MC35606-11 **Date Sampled:** 12/05/14 Matrix: AQ - Ground Water **Date Received:** 12/05/14 Method: MADEP EPH REV 1.1 SW846 3510C Percent Solids: n/a

NRG Montville Lathrop Rd. Uncasville, CT **Project:** 

File ID DF **Prep Date Analytical Batch** Analyzed By **Prep Batch** 12/09/14 **GBJ989** Run #1 BJ26013.D 1 12/17/14 AP OP41167

Run #2

**Initial Volume Final Volume** Run #1 1000 ml 2.0 ml Run #2

CAS No.	Compound	Result	RL	MDL	Units	Q		
83-32-9	Acenaphthene	ND	5.0	2.0	ug/l			
208-96-8	Acenaphthylene	ND	5.0	2.0	ug/l			
120-12-7	Anthracene	ND	5.0	2.0	ug/l			
56-55-3	Benzo(a)anthracene	ND	5.0	2.0	ug/l			
50-32-8	Benzo(a)pyrene	ND	5.0	2.0	ug/l			
205-99-2	Benzo(b)fluoranthene	ND	5.0	2.0	ug/l			
191-24-2	Benzo(g,h,i)perylene	ND	5.0	2.0	ug/l			
207-08-9	Benzo(k)fluoranthene	ND	5.0	2.0	ug/l			
218-01-9	Chrysene	ND	5.0	2.0	ug/l			
53-70-3	Dibenz(a,h)anthracene	ND	5.0	2.0	ug/l			
206-44-0	Fluoranthene	ND	5.0	2.0	ug/l			
86-73-7	Fluorene	ND	5.0	2.0	ug/l			
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	2.0	ug/l			
91-57-6	2-Methylnaphthalene	ND	5.0	2.0	ug/l			
91-20-3	Naphthalene	ND	5.0	2.0	ug/l			
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l			
129-00-0	Pyrene	ND	5.0	2.0	ug/l			
	C11-C22 Aromatics (Unadj.)	ND	100	70	ug/l			
	C9-C18 Aliphatics	ND	100	70	ug/l			
	C19-C36 Aliphatics	ND	100	70	ug/l			
	C11-C22 Aromatics	ND	100	70	ug/l			
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limi	its			
84-15-1	o-Terphenyl	45%		40-14	40%			
321-60-8	2-Fluorobiphenyl	53%	40-140%					
3386-33-2	1-Chlorooctadecane	40%	40-140%					
580-13-2	2-Bromonaphthalene	52%	40%					

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value

RL = Reporting Limit

E = Indicates value exceeds calibration range

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound





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Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- RCP Form



#### CHAIN OF CUSTODY

Accutest Laboratories of New England 495 Technology Center West, Building One TEL. 508-481-6200 FAX: 508-481-7753

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Relinquished by: Date Time:		Received By:					Custody S	eal#			Intact		Preserve	d where applicable	1**		On Ice	Cooler	Temp
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MC35606: Chain of Custody Page 1 of 2





# ACCUTES

### **Accutest Laboratories Sample Receipt Summary**

Accutest Job Number: MC	35606		Client: CBI		Project: 904857/MONT\	/ILLE		
Date / Time Received: 12/	5/2014 6	6:00:00 P	M Delivery	y Method:	Airbill #'s:			
Cooler Temps (Initial/Adjust	ted): #	1: (1.1/1.1	1);_					
	or N		COC Present:	Y or N ✓	Sample Integrity - Documentation		or N	
<ol> <li>Custody Seals Present:</li> <li>Custody Seals Intact:</li> </ol>		_	npl Dates/Time OK		Sample labels present on bottles:	<b>✓</b>		
Cooler Temperature	<u>Y</u>	or N			Container labeling complete:     Sample container label / COC agree:	<b>✓</b>		
1. Temp criteria achieved:  2. Thermometer ID:  3. Cooler media:  4. No. Coolers:  1				Sample Integrity - Condition  1. Sample recvd within HT:  2. All containers accounted for:  3. Condition of sample:	✓ ✓	or N		
Quality Control Preservation	<u>n</u> Y	or N	N/A		Sample Integrity - Instructions	<u>Y</u>	or N	N/A
1. Trip Blank present / cooler:		<b>✓</b>			Analysis requested is clear:	✓		
2. Trip Blank listed on COC:		✓			2. Bottles received for unspecified tests		$\checkmark$	
3. Samples preserved properly	· 🗸				3. Sufficient volume recvd for analysis:	$\checkmark$		
4. VOCs headspace free:					4. Compositing instructions clear:			✓
					5. Filtering instructions clear:			✓
Comments				406 Technologia	u Center West, Pilde One		Mode	anush MA (1757)
Accutest Laboratories V:(508) 481-6200					y Center West, Bldg One 508) 481-7753			orough, MA 01752 accutest.com

MC35606: Chain of Custody Page 2 of 2



### **Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form**

**Laboratory Name: Accutest New England** Client: Shaw Environmental & Infrastructure

**Project Location:** NRG Montville Lathrop Rd. Uncasville, CT Project Number: 1009644010. PO#

Sampling Date(s): 12/4/2014

Laboratory Sample ID(s): MC35606-1, MC35606-2, MC35606-3, MC35606-4, MC35606-5, MC35606-6, MC35606-

7, MC35606-8, MC35606-9, MC35606-10, MC35606-11

MADEP EPH REV 1.1, SW846 6010C, SW846 6020A Methods: For each analytical method referenced in this laboratory report package, were all specified QA/QC performance criteria followed, including the requirement to explain any Yes 🗹 No 🗖 1 criteria falling outside of acceptable guidelines, as specified in the CTDEP methodspecific Reasonable Confidence Protocol Where all the method specified preservation and holding time requirements met? Yes 🗹 1A Yes 🗖 No 1B VPH and EPH mehods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods) NA 🗹 Were all samples received by the laboratory in a condition consistent with 2 Yes 🗹 No 🗖 that described on the associated chain-of-custody document(s)? Yes 🗹 3 Were samples received at an appropriate temperature (<6° C)? No Were all QA/QC performance criteria specified in the CTDEP Reasonable Yes 🗖 No Confidence Protocol documents achieved? Yes 🗹 a) Were reporting limits specified or referenced on the chain-of-custody? 5 No No 🗹 Yes 📮 b) Were these reporting limits met? For each analytical method referenced in this laboratory report package, Yes 📮 No 🗹 6 were results reported for all constituents identified in the method-specific analyte lists presented in the Reasonable Confidence Protocol documents? Are project-specific matrix spikes and laboratory duplicates included in this 7 Yes 🔲 No 🗹 data set?

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

l, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belie
and based upon my personal inquiry of those responsible for providing the information contained in this
analytical report, such information is accurate and complete.

Authorized

Signature: Position: Lab Director

Date: 12/19/2014 Printed Name: Reza Tand

Accutest New England



#### **Data Usability Worksheet**

NRG Montville 1009644010 Project Name : Job Number :

Jennifer Gailey Prepared By:

Date : Valicated By: Kim Napier Date : 1/5/2015 Matrix: Groundwater

Analyte Group : MADEP Analytical Method : MADEP EPH Metals

EPA 6010C

Completed RCP Certification Form included: Yes Laboratory ID No. : MC35624

Chain of Custody included in Data Package? Yes Is it Complete ? Yes

Sample Collection Date			Allowable Holding Time for analysis	Analysis Date
9/26/2014	6010C		180 Days	12/5/14
9/26/2014	MADEP EPH	14 Days	40 Days	12/5/14

Sample temperature within QC limits: Yes, < 6.0° C

Surrogate Recovery

Are all % recoveries within the allowable range? Yes If No, List sample ID where range was exceeded: N/A

Are all MS/MSD sample recoveries within the QC limits? Yes If No, list sample ID, date and compound where limit was exceeded: N/A

**Laboratory Control Samples** 

Are all laboratory control sample recoveries within the QC limits? NA If no, list sample ID where range was exceeded: N/A

Equipment Field Blank ID : Trip Blank ID : N/A

Method Blank:

6020A 12/10/2014 MADEP EPH 12/17/2014

Were any compounds identified in the method blank, field blank or trip blank above detection limits? No

If so, list Sample ID/Compound/Concentration/Units: NA

**6010C**RPD(s) for Serial Dilution for Vanadium, Zinc are outside control limits for sample MP24009-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

No qualification necessary; batch QC, not NRG sample and results < 50X IDL.

Reviewed By:



12/22/14



## Technical Report for

Shaw Environmental & Infrastructure

NRG Montville Lathrop Road, Montville, CT

1009644010-2 PO#904857 PO#904857

Accutest Job Number: MC35624

Sampling Date: 12/05/14

#### Report to:

CB&I 150 Royall Street Canton, MA 02021 Raymond.Cadorette@shawgrp.com

ATTN: Raymond Cadorette

Total number of pages in report: 24



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Client Service contact: Frank DAgostino 508-481-6200

Certifications: MA (M-MA136,SW846 NELAC) CT (PH-0109) NH (250210) RI (00071) ME (MA00136) FL (E87579) NY (11791) NJ (MA926) PA (6801121) ND (R-188) CO MN (11546AA) NC (653) IL (002337) WI (399080220) DoD ELAP (L-A-B L2235)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories. Test results relate only to samples analyzed.

Lab Director

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## **Sample Summary**

Shaw Environmental & Infrastructure

Job No: MC35624

NRG Montville Lathrop Road, Montville, CT Project No: 1009644010-2 PO#904857

PO#904857

Sample Collected				Matrix	Client	
Number	Date	Time By	Received	Code Type	Sample ID	
MC35624-1	12/05/14	12:40 DL	12/08/14	AQ Ground Water	AOC5-MW202	





#### SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Shaw Environmental & Infrastructure Job No MC35624

Site: NRG Montville Lathrop Road, Montville, CT Report Date 12/22/2014 9:18:27 AM

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 12/05/2014 and were received at Accutest on 12/08/2014 properly preserved, at 1.7 Deg. C and intact. These Samples received an Accutest job number of MC35624. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

#### Extractables by GC By Method MADEP EPH REV 1.1

Matrix: AQ Batch ID: OP41167

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

#### Metals By Method SW846 6010C

Matrix: AQ Batch ID: MP24009

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) MC35558-4FSDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Vanadium, Zinc are outside control limits for sample MP24009-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).</p>
- Only selected metals requested.

Accutest may not have met all requested limits due to methodology limitations, sample matrix, dilutions, or percents solids.

The Accutest Laboratories of New England certifies that all analysis were performed within method specification. It is further recommended that this report to be used in its entirety. The Accutest Laboratories of NE, Laboratory Director or assignee as verified by the signature on the cover page has authorized the release of this report(MC35624).

**Summary of Hits Job Number:** MC35624

Account: Shaw Environmental & Infrastructure

Project: NRG Montville Lathrop Road, Montville, CT

**Collected:** 12/05/14

Lab Sample ID Client Sample ID Result/
Analyte Qual RL MDL Units Method

MC35624-1 AOC5-MW202

No hits reported in this sample.



Sample Results		
Report of Analysis		



### **Report of Analysis**

Client Sample ID: AOC5-MW202

Lab Sample ID:MC35624-1Date Sampled:12/05/14Matrix:AQ - Ground WaterDate Received:12/08/14Method:MADEP EPH REV 1.1 SW846 3510CPercent Solids:n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

File ID DF Analyzed By Prep Date Prep Batch Analytical Batch
Run #1 BJ26014.D 1 12/17/14 AP 12/09/14 OP41167 GBJ989

Run #2

Run #1 Initial Volume Final Volume 2.0 ml

Run #2

CAS No.	Compound	Result	RL	Units Q	
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenz(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	
	C11-C22 Aromatics (Unadj.)	ND	100	ug/l	
	C9-C18 Aliphatics	ND	100	ug/l	
	C19-C36 Aliphatics	ND	100	ug/l	
	C11-C22 Aromatics	ND	100	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits	
84-15-1	o-Terphenyl	56%		40-140%	
321-60-8	2-Fluorobiphenyl	59%		40-140%	
3386-33-2	1-Chlorooctadecane	-Chlorooctadecane 43% 40-1			
580-13-2	2-Bromonaphthalene	57%		40-140%	

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



### **Report of Analysis**

Client Sample ID: AOC5-MW202

Lab Sample ID: MC35624-1 Date Sampled: 12/05/14

Matrix: AQ - Ground Water Date Received: 12/08/14

Percent Solids: n/a

**Project:** NRG Montville Lathrop Road, Montville, CT

### **Total Metals Analysis**

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Arsenic	< 4.0	4.0	ug/l	1	12/10/14	12/11/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Beryllium	< 4.0	4.0	ug/l	1	12/10/14	12/11/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Copper	< 25	25	ug/l	1	12/10/14	12/11/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Nickel	< 40	40	ug/l	1	12/10/14	12/11/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Vanadium	< 10	10	ug/l	1	12/10/14	12/11/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>
Zinc	< 20	20	ug/l	1	12/10/14	12/11/14 EAL	SW846 6010C <sup>1</sup>	SW846 3010A <sup>2</sup>

(1) Instrument QC Batch: MA17761(2) Prep QC Batch: MP24009



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- · Chain of Custody
- RCP Form
- Sample Tracking Chronicle



### CHAIN OF CUSTODY

Accutest Laboratories of New England 495 Technology Center West, Building One TEL. 508-481-6200 FAX: 508-481-7753

PAGE	2	OF	1

Bottle Order Control #

			TEL. 508-481-6200 FAX: 508-481-7753 www.accutest.com						Acculest	Quote #				Accut	ist Joby	6	DW - Drinking Water GW - Cround Valer GW - Ground Valer GW - Water GW - Water GW - Water GW - Water GW - Water SO - SO - SO - SO - SO - SO - SO - SO -										
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FED-EX Tracking #

MC35624: Chain of Custody Page 1 of 2





## **Accutest Laboratories Sample Receipt Summary**

Accutest Job Number: MC	35624		Client:	CB&I		Project: NRG			
Date / Time Received: 12/8	3/2014 \$	5:55:00 F	PM	Delivery I	Method:	 Airbill #'s:			
Cooler Temps (Initial/Adjuste	ed): #	1: (1.7/1.	7);_						
	or N	_			Y or	 Sample Integrity - Documentation	<u>Y</u>	or N	
Custody Seals Present:  ✓		_	COC Pr		<b>✓</b>	Sample labels present on bottles:	✓		
2. Custody Seals Intact: ✓		4. Sr	npl Dates	s/Time OK	✓	2. Container labeling complete:	$\checkmark$		
Cooler Temperature	<u>Y</u>	or N				3. Sample container label / COC agree:	$\checkmark$		
1. Temp criteria achieved:	$\checkmark$					Sample Integrity - Condition	<u>Y</u>	or N	
2. Thermometer ID:		G1;				1. Sample recvd within HT:	$\checkmark$		
3. Cooler media:	le	ce (Bag)				All containers accounted for:	<b>✓</b>		
4. No. Coolers:		1				3. Condition of sample:		ntact	
Quality Control Preservation	<u> Y</u>	or N	N/A			Sample Integrity - Instructions	ΥΥ	or N	N/A
Trip Blank present / cooler:			<b>✓</b>			Analysis requested is clear:	<b>✓</b>		
2. Trip Blank listed on COC:			<b>✓</b>			Bottles received for unspecified tests		$\checkmark$	
3. Samples preserved properly:	<b>✓</b>					Sufficient volume recvd for analysis:	<b>✓</b>		
4. VOCs headspace free:			<b>✓</b>			4. Compositing instructions clear:			✓
						5. Filtering instructions clear:			<b>✓</b>
Comments									
İ									
Accutest Laboratories V:(508) 481-6200					495 Te	nter West, Bldg One 481-7753			orough, MA 01752 accutest.com

MC35624: Chain of Custody Page 2 of 2



# 5.2

굣

No

No

No

No 🔽

No 🗹

No 📮

Yes 🔽

Yes 🔽

Yes 🗹

Yes 📮

Yes 🗖

Yes 🔲

### **Reasonable Confidence Protocol Laboratory Analysis QA/QC Certification Form**

**Laboratory Name: Accutest New England** Client: Shaw Environmental & Infrastructure

NRG Montville Lathrop Road, Montville, Project Number: Project Location: 1009644010 PO#

MADEP EPH REV 1.1, SW846 6010C

Sampling Date(s): 12/5/2014

Methods:

3

4

5

7

data set?

Laboratory Sample ID(s): MC35624-1

specified QA/QC performance criteria followed, including the requirement to explain any criteria falling outside of acceptable guidelines, as specified in the CTDEP method-Yes 🗹 No 🗖 1 specific Reasonable Confidence Protocol documents)? Yes 🔽 Where all the method specified preservation and holding time requirements met? Nο 1A Yes 🔽 1B No VPH and EPH mehods only: Was the VPH or EPH method conducted without significant modifications (See section 11.3 of respective methods) NA 🗖 Were all samples received by the laboratory in a condition consistent with Yes 🗹 2 No 🗖 that described on the associated chain-of-custody document(s)?

Were samples received at an appropriate temperature (<6° C)?

Confidence Protocol documents achieved?

b) Were these reporting limits met?

Were all QA/QC performance criteria specified in the CTDEP Reasonable

For each analytical method referenced in this laboratory report package,

were results reported for all constituents identified in the method-specific

analyte lists presented in the Reasonable Confidence Protocol documents? Are project-specific matrix spikes and laboratory duplicates included in this

a) Were reporting limits specified or referenced on the chain-of-custody?

For each analytical method referenced in this laboratory report package, were all

Note: For all questions to which the response was "No" (with the exception of question #7), additional information must be provided in an attached narrative. If the answer to question #1, #1A or #1B is "No", the data package does not meet the requirements for "Reasonable Confidence".

I, the undersigned, attest under pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete.

Authorized

Signature: Printed Name: Reza Tand

Position: Lab Director

12/22/2014 Date:

Accutest New England



## **Internal Sample Tracking Chronicle**

Shaw Environmental & Infrastructure

Job No: MC35624

NRG Montville Lathrop Road, Montville, CT Project No: 1009644010-2 PO#904857

PO#904857

Sample Number	Method	Analyzed	Ву	Prepped	Ву	Test Codes
MC35624-1 AOC5-MW	Collected: 05-DEC-14 202	12:40 By: DL	Receiv	ved: 08-DEC	'-14 By	:: NT

MC35624-1 SW846 6010C 11-DEC-14 15:13 EAL 10-DEC-14 EM AS, BE, CU, NI, V, ZN MC35624-1 MADEP EPH REV 1.1 17-DEC-14 15:32 AP 09-DEC-14 PA **BMAEPH** 



## GC Semi-volatiles

## QC Data Summaries

## Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Surrogate Recovery Summaries

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Method: MADEP EPH REV 1.1

## **Method Blank Summary**

Job Number: MC35624

Account: FDG Shaw Environmental & Infrastructure
Project: NRG Montville Lathrop Road, Montville, CT

Sample	File ID	DF	Analyzed	By	<b>Prep Date</b>	Prep Batch	<b>Analytical Batch</b>
OP41167-MB	BJ26005.D	1	12/17/14	AP	12/09/14	OP41167	GBJ989

### The QC reported here applies to the following samples:

MC35624-1

CAS No.	Compound	Result	RL	Units Q
83-32-9	Acenaphthene	ND	5.0	ug/l
208-96-8	Acenaphthylene	ND	5.0	ug/l
120-12-7	Anthracene	ND	5.0	ug/l
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l
218-01-9	Chrysene	ND	5.0	ug/l
53-70-3	Dibenz(a,h)anthracene	ND	5.0	ug/l
206-44-0	Fluoranthene	ND	5.0	ug/l
86-73-7	Fluorene	ND	5.0	ug/l
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l
91-20-3	Naphthalene	ND	5.0	ug/l
85-01-8	Phenanthrene	ND	5.0	ug/l
129-00-0	Pyrene	ND	5.0	ug/l
	C11-C22 Aromatics (Unadj.)	ND	100	ug/l
	C9-C18 Aliphatics	ND	100	ug/l
	C19-C36 Aliphatics	ND	100	ug/l
	C11-C22 Aromatics	ND	100	ug/l

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	63%	40-140%
321-60-8	2-Fluorobiphenyl	69%	40-140%
3386-33-2	1-Chlorooctadecane	54%	40-140%
580-13-2	2-Bromonaphthalene	67%	40-140%



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Method: MADEP EPH REV 1.1

## Blank Spike/Blank Spike Duplicate Summary

Job Number: MC35624

**Account:** FDG Shaw Environmental & Infrastructure **Project:** NRG Montville Lathrop Road, Montville, CT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
OP41167-BS	BJ26006.D	1	12/17/14	AP	12/09/14	OP41167	GBJ989
OP41167-BSD	BJ26031.D	1	12/18/14	AP	12/09/14	OP41167	GBJ990

The QC reported here applies to the following samples:

MC35624-1

		Spike	BSP	BSP	BSD	BSD		Limits
CAS No.	Compound	ug/l	ug/l	<b>%</b>	ug/l	<b>%</b>	RPD	Rec/RPD
83-32-9	Acenaphthene	50	25.1	50	20.8	42	19	40-140/25
208-96-8	Acenaphthylene	50	25.4	51	20.9	42	19	40-140/25
120-12-7	Anthracene	50	31.8	64	28.3	57	12	40-140/25
56-55-3	Benzo(a)anthracene	50	33.2	66	31.4	63	6	40-140/25
50-32-8	Benzo(a)pyrene	50	28.9	58	28.5	57	1	40-140/25
205-99-2	Benzo(b)fluoranthene	50	32.6	65	31.9	64	2	40-140/25
191-24-2	Benzo(g,h,i)perylene	50	32.4	65	32.2	64	1	40-140/25
207-08-9	Benzo(k)fluoranthene	50	31.2	62	29.9	60	4	40-140/25
218-01-9	Chrysene	50	33.3	67	31.4	63	6	40-140/25
53-70-3	Dibenz(a,h)anthracene	50	31.1	62	36.0	72	15	40-140/25
206-44-0	Fluoranthene	50	33.3	67	29.9	60	11	40-140/25
86-73-7	Fluorene	50	28.3	57	23.9	48	17	40-140/25
193-39-5	Indeno(1,2,3-cd)pyrene	50	29.4	59	27.6	55	6	40-140/25
91-57-6	2-Methylnaphthalene	50	25.7	51	20.5	41	23	40-140/25
91-20-3	Naphthalene	50	26.6	53	21.1	42	23	40-140/25
85-01-8	Phenanthrene	50	29.8	60	26.4	53	12	40-140/25
129-00-0	Pyrene	50	31.8	64	29.2	58	9	40-140/25
	C11-C22 Aromatics (Unadj.)	800	551	69	518	65	6	40-140/25
	C9-C18 Aliphatics	300	151	50	167	56	10	40-140/25
	C19-C36 Aliphatics	400	269	67	323	81	18	40-140/25

CAS No.	<b>Surrogate Recoveries</b>	BSP	BSD	Limits	
84-15-1 o-Terphenyl		71%	61%	40-140%	
321-60-8 2-Fluorobiphenyl		72%	63%	40-140%	
3386-33-2 1-Chlorooctadecane		56%	64%	40-140%	
580-13-2 2-Bromonaphthalene		70%	61%	40-140%	
Sample	Compound	Col #1	Col #2	Breakthro	ugh Limit
OP41167-B		25.7	0.027	0.1%	5.0
OP41167-B		26.6	0.39	1.4%	5.0

<sup>\* =</sup> Outside of Control Limits.



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## Semivolatile Surrogate Recovery Summary

Job Number: MC35624

Account: FDG Shaw Environmental & Infrastructure
Project: NRG Montville Lathrop Road, Montville, CT

Method: MADEP EPH REV 1.1 Matrix: AQ

## Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 a	S2 a	S3 b	<b>S4</b> <sup>a</sup>
MC35624-1	BJ26014.D	56	59	43	57
OP41167-BS	BJ26006.D	71	72	56	70
OP41167-BSD	BJ26031.D	61	63	64	61
OP41167-MB	BJ26005.D	63	69	54	67

# Surrogate Recovery Compounds Limits

 S1 = o-Terphenyl
 40-140%

 S2 = 2-Fluorobiphenyl
 40-140%

 S3 = 1-Chlorooctadecane
 40-140%

 S4 = 2-Bromonaphthalene
 40-140%

(a) Recovery from GC signal #1

(b) Recovery from GC signal #2





## Metals Analysis

## QC Data Summaries

## Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

#### Login Number: MC35624

Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP24009 Matrix Type: AQUEOUS Methods: SW846 6010C

Units: ug/l

D D	20-000				10/10/14
Prep Date:					12/10/14
Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	8.4	13		
Antimony	6.0	.9	2.4		
Arsenic	4.0	1.1	2.4	0.30	<4.0
Barium	50	.28	2		
Beryllium	4.0	.098	.18	0.0	<4.0
Bismuth	50	.96	3		
Boron	100	1.3	3.4		
Cadmium	4.0	.18	.24		
Calcium	5000	5.1	21		
Chromium	10	.23	.73		
Cobalt	50	.25	.6		
Copper	25	.76	3.6	0.40	<25
Gold	50	.88	1.4		
Iron	100	2.4	7.4		
Lead	5.0	.6	1.9		
Lithium	500	1.4	45		
Magnesium	5000	15	74		
Manganese	15	.19	.35		
Molybdenum	100	1.2	.81		
Nickel	40	.27	.57	-0.30	<40
Palladium	50	.91	6.5		
Platinum	50	3.1	5.1		
Potassium	5000	29	69		
Selenium	10	1.4	2.7		
Silicon	100	2.4	21		
Silver	5.0	2.2	.96		
Sodium	5000	6.7	22		
Sulfur	50	2.4	9.7		
Strontium	10	.04	.18		
Thallium	5.0	1	1.5		
Tin	100	. 44	3.3		
Titanium	50	. 4	.89		
Tungsten	100	2.1	5.2		



#### BLANK RESULTS SUMMARY Part 2 - Method Blanks

### Login Number: MC35624

Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP24009 Methods: SW846 6010C Matrix Type: AQUEOUS Units:  $\mbox{ug/l}$ 

Prep Date:

12/10/14

Metal	RL	IDL	MDL	MB raw	final
Vanadium	10	.3	.72	-0.20	<10
Zinc	20	.12	4.2	7.0	<20
Zirconium	50	.19	1.3		

Associated samples MP24009: MC35624-1

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested

#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC35624
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP24009 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/1

Prep Date: 12/10/14 12/10/14

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelot MPICP	% Rec	BSD RPD	QC Limit
Aluminum	anr								
Antimony	anr								
Arsenic	516	500	103.2	80-120	497	500	99.4	3.8	20
Barium	anr								
Beryllium	536	500	107.2	80-120	521	500	104.2	2.8	20
Bismuth									
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	510	500	102.0	80-120	492	500	98.4	3.6	20
Gold									
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	517	500	103.4	80-120	498	500	99.6	3.7	20
Palladium									
Platinum									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur									
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									

#### SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: MC35624 Account: FDG - Shaw Environmental & Infrastructure

Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP24009 Methods: SW846 6010C Matrix Type: AQUEOUS Units: ug/l

Prep Date:	12/10/14	12/10/14

Metal	BSP Result	Spikelot MPICP	% Rec	QC Limits	BSD Result	Spikelo MPICP	t % Rec	BSD RPD	QC Limit
Vanadium	508	500	101.6	80-120	489	500	97.8	3.8	20
Zinc	529	500	105.8	80-120	510	500	102.0	3.7	20

Zirconium

Associated samples MP24009: MC35624-1

Results < IDL are shown as zero for calculation purposes (\*) Outside of QC limits (anr) Analyte not requested



#### SERIAL DILUTION RESULTS SUMMARY

Login Number: MC35624
Account: FDG - Shaw Environmental & Infrastructure
Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP24009 Methods: SW846 6010C Matrix Type: AQUEOUS Units:  $\mbox{ug/l}$ 

Prep Date: 12/10/14

Metal	MC35558-4 Original		%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	0.00	0.00	NC	0-10
Barium	anr			
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	anr			
Calcium	anr			
Chromium	anr			
Cobalt	anr			
Copper	0.00	0.00	NC	0-10
Gold				
Iron	anr			
Lead	anr			
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	14.2	13.5	4.9	0-10
Palladium				
Platinum				
Potassium	anr			
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Sulfur				
Strontium				
Thallium	anr			
Tin				
Titanium				
Tungsten				

#### SERIAL DILUTION RESULTS SUMMARY

Login Number: MC35624 Account: FDG - Shaw Environmental & Infrastructure Project: NRG Montville Lathrop Road, Montville, CT

QC Batch ID: MP24009 Methods: SW846 6010C

Matrix Type: AQUEOUS Units: ug/l

12/10/14 Prep Date:

Metal	MC35558-4F Original SDL 1	:5 %DIF
ium	0.500 0.00	100.0(a)
nc	5.70 6.50	14.0 (a)

Zirconium

Associated samples MP24009: MC35624-1

Results < IDL are shown as zero for calculation purposes

(\*) Outside of QC limits (anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample  $\,$  concentration (< 50 times IDL).

ACCUTEST MC35624